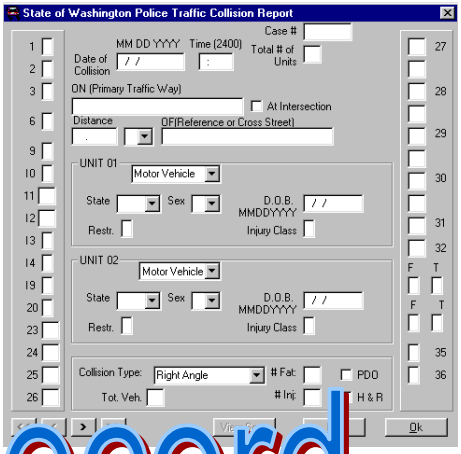
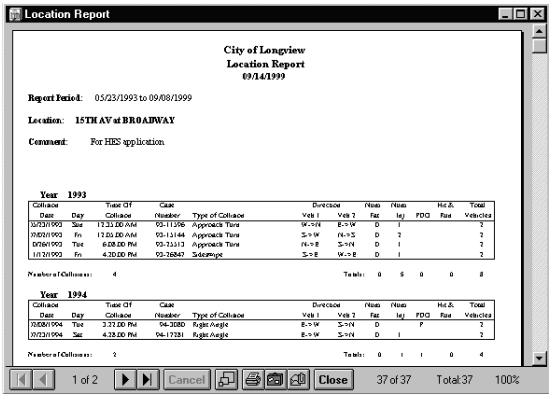
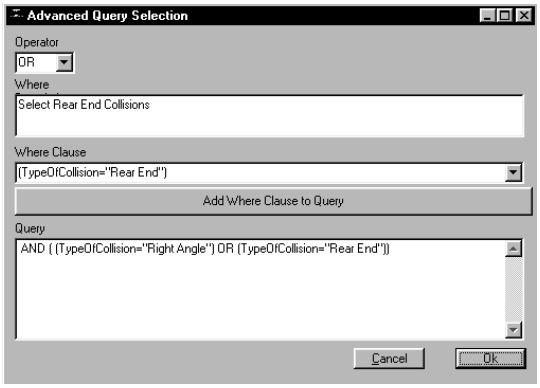


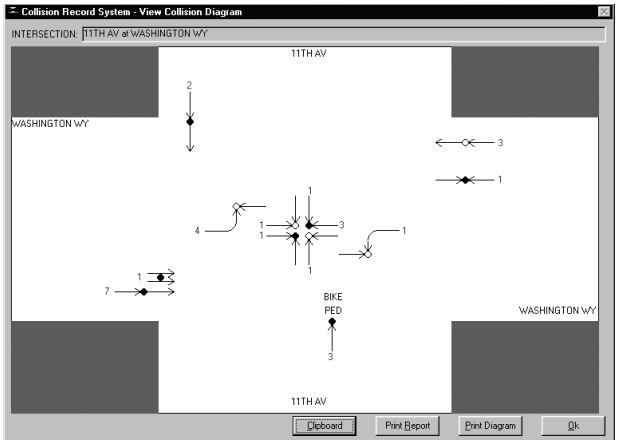

# Collision Record System




## Version 3

## December 1999



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PO Box 47344
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Phone: 360-705-7986
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E-mail: lagerge@wsdot.wa.gov


This publication is also available on CD-ROM or via Internet on the WSDOT homepage at http://www.wsdot.wa.gov/TA/T2Center/TechHp.html

# Forward

This *CRS (Collision Records System) Manual* was written to provide a guide for users of CRS. CRS is a computer program used by local agencies for traffic collision records data storage and analysis to improve traffic safety. CRS and this manual were written by John Bean, Traffic Engineer, of the City of Longview.

Updating the manual is a continuing process and revisions are issued periodically. Questions, observations, and recommendations are invited. The next page is provided to encourage comments and assure their prompt delivery. Use copies of it to transmit comments and attachments, such as marked copies of manual pages. For clarification of the content of the manual, contact the Traffic Services Engineer in the Traffic Operations Office in the Olympia Service Center.

Edwin A. Lagergren, P.E.
Traffic Services Engineer

# Comment Request Form

From:_____ Date: _____

_____ Phone:_____

_____

To: WSDOT
Olympia Service Center, Traffic Office
Mail Stop 47344
PO Box 47344
Olympia, WA 98504-7344

Subject: *CRS Manual* Comment

Comment (marked copies attached):

**Preserve this original for future use • Submit copies only**

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# Introduction

In 1984 the Urban Traffic Engineering Council (UTEC) made a proposition to the Washington State Department of Transportation (WSDOT). If WSDOT would purchase IBM personal computers for traffic engineers, those traffic engineers would develop traffic engineering computer programs that would be public domain.

One of the earliest programs developed was a traffic accident record system (TARS), developed by the City of Vancouver. Traffic accidents could be entered manually and reports could be generated. This program was developed in Smart, the UTEC standard.

When Smart was upgraded to SmartWare II, all programs developed in Smart had to be converted. WSDOT decided to upgrade two applications in house, TARS and the sign inventory. A year later and after many dollars spent, neither of the programs was completed. The developer of the original TARS took over the code and finished the program. The Washington Traffic Safety Commission developed a hybrid of the new TARS so traffic accident records could be downloaded into the program.

SmartWare II was a DOS based program; and with the introduction and acceptance of Windows 3.1, the program was no longer desirable. TransAid discussed the upgrade of the UTEC system, but no action was taken.

In the summer of 1997, the City of Longview decided it could no longer depend on TransAid to develop or provide a traffic accident program in a timely fashion. A new windows based program was developed by the City of Longview. This program stores the traffic collision information in a Microsoft Access database format and is programmed in Visual Basic to provide the error checking of entered data and the specialized output of the data.

In November of 1997, the program (CRS, Collision Record System-Version 1, Release 1) was completed. Both the City of Kent, and the City of Auburn volunteered to use the program to help find the bugs and make suggestions for better features.

In the summer of 1999, the Washington Traffic Safety Commission allocated funds to enhance CRS, write this manual, and incorporate this manual into a help system. The finished product is The Collision Record System – Version 3, Release 1.

Some of the main features of The ***C****ollision* ***R****ecord* ***S****ystem* are that it:

- Stores the data in a Microsoft Access database
- Stores volumes allowing the calculation of collision rates
- Browses and edits data using powerful point and click queries
- Views and prints collision diagrams
- Produces numerous reports, including a high collision location list
- Generates many graphs illustrating collision patterns

# System Requirements

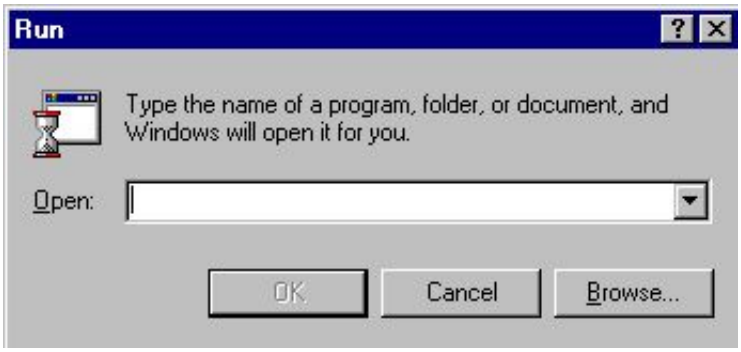
As with all Windows 95 / Windows 98 and Windows NT programs, the faster the CPU and the more RAM available the better the *Collision Record System* will operate. However, the following are the minimum requirements to successfully run the *Collision Record System*.

- IBM PC Pentium
- Windows 95, 98 or NT
- 16 MB of RAM (32 Recommended)
- 10 MB of hard disk space.

# Installation

The *Collision Record System* comes on a single CD Rom. Insert the CD ROM into the CD ROM drive and do the following:

- Click Start on the TaskBar
- Click Run. The following will appear.




- Either type the drive where the CD ROM is located and SETUP.EXE, or click on Browse, locate the CD ROM drive, and select SETUP.EXE.

The installation program will guide you through the installation process and that includes the creation of the required folders, coping all the necessary files, and creating a group.

# Terminology

Most manuals have terms that are used throughout the program and the manual. The *Collision Record System* is no exception. There are terms that refer to the Windows environment and there are terms that refer to the traffic engineering elements of the program.

## Windows:

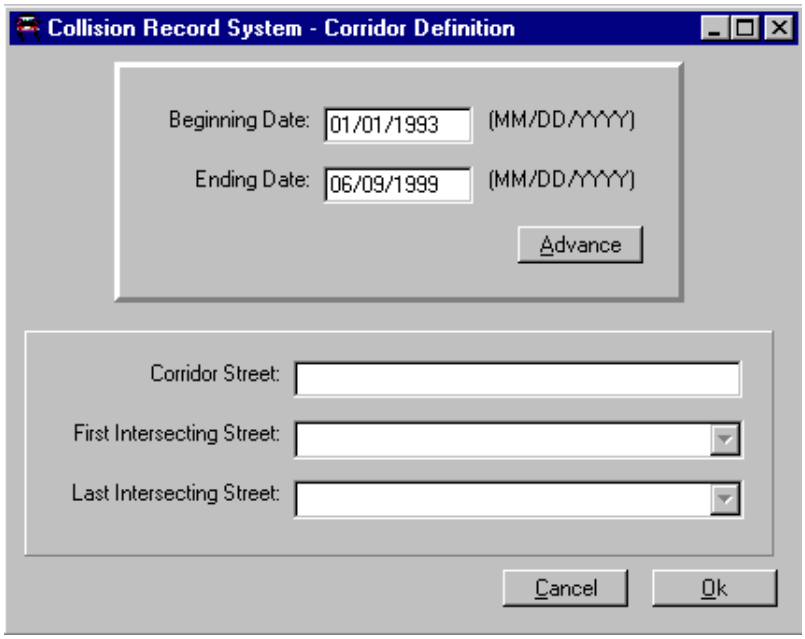
### Using a Mouse:

A mouse provides an easy way to navigate through Windows programs. All mice have at least two (2) buttons, with some mice having three. In the *Collision Record System*, primarily utilizes the **left mouse button**. Therefore, whenever the manual refers to **clicking** the mouse, it means pressing the **left mouse button**.

### Forms:

The windows that are displayed in the *Collision Record System* are called forms. Forms consist of a title, which is displayed along the top, text, and fields. To navigate between fields, clicking on the field will transfer the focus to the field. Using a keyboard, pressing T will move to the next field, while simultaneously pressing S T will move focus to the previous field.

The following is an example of a typical form.



The form has eight (8) fields: two Date fields (Beginning and Ending Date), one Text Box, two Drop Down List Boxes, and three button fields (Advance, Cancel and OK).

**Disable/Enable:** A field can be enabled or disabled. An enabled field can have its value modified, or data entered/selected. When a field is disabled, the user cannot access it. A disabled field is displayed in **light gray.**

**Receive Focus/Lost Focus:** All forms have fields. The simplest form is a message box that has one button field. Most forms in the *Collision Record System* have multiple fields which either require data to be entered via the keyboard or items picked from a list. The cursor is typically a vertical bar that flashes. When either clicking on another field with the mouse or pressing T moves the cursor to a new field, the new field has **received focus**. The field that the cursor was previously in has **lost focus**.

## Buttons:


Button fields look like a raised button and contain text. Clicking a button will select the button.

There are two ways of selecting a button using the keyboard. They are:

- Move to the button field by pressing the T key until the button is highlighted. Once the button is highlighted, press E .
- While holding the H key down, press the key whose letter is underlined on the button. For the Ok button shown above, holding down the H key and pressing the O key, will select the Ok button.

## Text Fields:


Text fields are used to enter alphanumeric information. A typical text field in the *Collision Record System* is the location of a collision.

Entering information in a text box is similar to typing on a word processor. Similar keys are used to maneuver in the text field, such as arrow keys, insert key, and delete key.

## Numeric Fields:


In the *Collision Record System*, all numeric fields are integers. Only the digits 1, 2, 3, 4, 5, 6, 7, 8, 9, and 0 are acceptable characters. Therefore, if another key is pressed, the program will ignore it.

## Radio Button Fields:


Selecting radio button fields can be compared to answering multiple-choice questions. There is more than one option; however, only one option can be chosen.

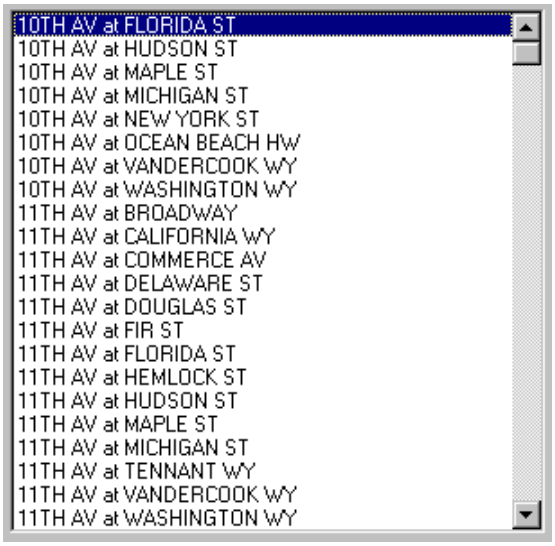
Using the mouse, clicking on the circular radio button or the description next to the radio button will select that particular choice. The selected choice is designated by filling the radio button which gives the impression of the button being depressed.

Moving between the radio buttons using the Z and Y keys will allow the appropriate choice to be selected.

## Check Boxes:


Check Box fields provide an easy method to choose multiple items. When a check box item is highlighted, the status (checked, or unchecked) can be toggled by two methods. One is by clicking within the box with the mouse and the other is by press the space bar.

## List Boxes:

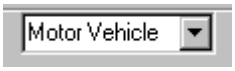


A list box is a rectangular box in which a list of items is displayed. When there are more items than can be displayed in the box, a vertical scroll bar is displayed on the right hand side. To select an item in a list box, if the item is not currently displayed, click on the vertical scroll bar until the desired item is displayed in the list box. Using the mouse, move the mouse arrow to the desired item and click the mouse. The item will be highlighted. Clicking the **Ok** button located near the list box will select the highlighted item.

To highlight another item using the keyboard, use the Z, Y, O, and N keys.

The following is an example of a list box.

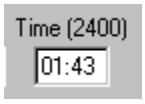
## Drop Down Lists:




The Drop Down List field is used to select a choice from a list. Clicking on the down arrow will display the drop down list. Clicking on a particular item in the list will select that item.

If you are using the keyboard, once the field is in focus, using the Z and Y keys will scroll the items in the drop down list. Simultaneously pressing the H and the Y will display the drop down list. Using the Z and Y keys, the appropriate item can be highlighted. Pressing the E key will select the highlighted item.

## Time Fields:




Time fields are to be entered in 24 Hour format.

The time field can be considered to have two sub fields linked together. The two sub fields are;

- Hour
- Minute

Both the hour and minute sub-fields are two characters in length; and when a sub-field is filled, the cursor will jump to the next sub field. Therefore, if the hour or minute is less than ten (10), you must enter a leading zero **then** the number so that the cursor will automatically jump to the next sub-field.

## Date Fields:


The appropriate date is entered using the number keys. All four digits of the year are required; therefore there will not be a problem with the year 2000 or those following.

The date field can be considered to have three (3) sub fields linked together. The three sub fields are:

- Month
- Day
- Year

Both the month and day sub-fields are two characters in length, whereas the year sub field is four characters in length. When a sub-field is filled, the cursor will jump to the next sub-field. Therefore, if the month or day is less than ten (10), you must enter a leading zero **then** the number so that the cursor will automatically jump to the next sub-field.

# Moving Between Data Records

The *Collision Record System* contains several database tables within the database, UTEC.MDB. Among these are a database table that contains all the collision records, entitled CRS, and a database table that contains intersection volumes, entitled Volumes. (Cleverly named!)

There are specific objects on the forms which, when clicked will display a record. These objects, data control and command buttons, are used to enter new data, browse data, and edit existing data on the forms. The following is an example of the data object and command buttons and the function of each.



**Note:** The examples illustrated above show two different graphical representations for the same functions. In the upper example, the left arrow with a leading vertical bar performs the same function as the double left arrow in the lower example.

The following table illustrates the action of each object.

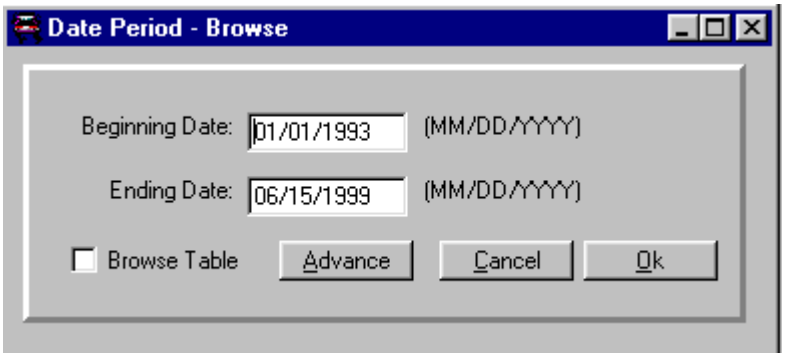
| Object | Action |
|---|---|
|  | Display the first record in the database table. |
|  | Display the previous record in the database table. |
|  | Display the next record in the database table. |
|  | Display the last record in the database table. |

Once you become familiar with the data control, maneuvering through a database table will be a breeze.

# Specifying a Date Period

One of the *Collision Record System's* key features is that it allows for consistency in entering and retrieving data. Specifying a date period is a feature that can be used when browsing or editing data, viewing a collision diagram, and creating reports. The method of entering the date period is the same throughout the *Collision Record System*.

The following is an example of a form in which a date period can be specified.




As described previously, the date field can be considered to have three sub fields linked together: month, day, and year.

Both the month and day sub fields are two characters in length, whereas the year sub-field is four characters in length. When a sub field is filled, the cursor will jump to the next sub field. Therefore, if the month or day is less than ten (10), you must enter a leading zero **then** the number so that the cursor will automatically jump to the next sub field.

Many times in performing traffic studies, a specific date period is used. Many studies use three years' worth of collision data. The *Collision Record System* has built in short cut keys to aid in easily specifying a date period.

The short cut keys are a combination of C and 1 through 9. These combinations will increment the date field by one to nine years.

**Example:** The ending date is **05/20/1998**. A three-year study is required. Do the following:

- Click on the **Beginning** Date Field
- Simultaneously press C 3. The Beginning Date will be **05/21/1996.**

**Note:** When the *Collision Record System* searches the database for a date period, it is an inclusive search. That means, all records which are greater than or equal to the beginning date and less than or equal to the ending date is included.

Example: To retrieve all the collision records for the year 1998, the beginning date is 01/01/1998 and the ending date is 12/31/1998.

**Example:** The desired date period is for the calendar year of **1997**. Do the following:

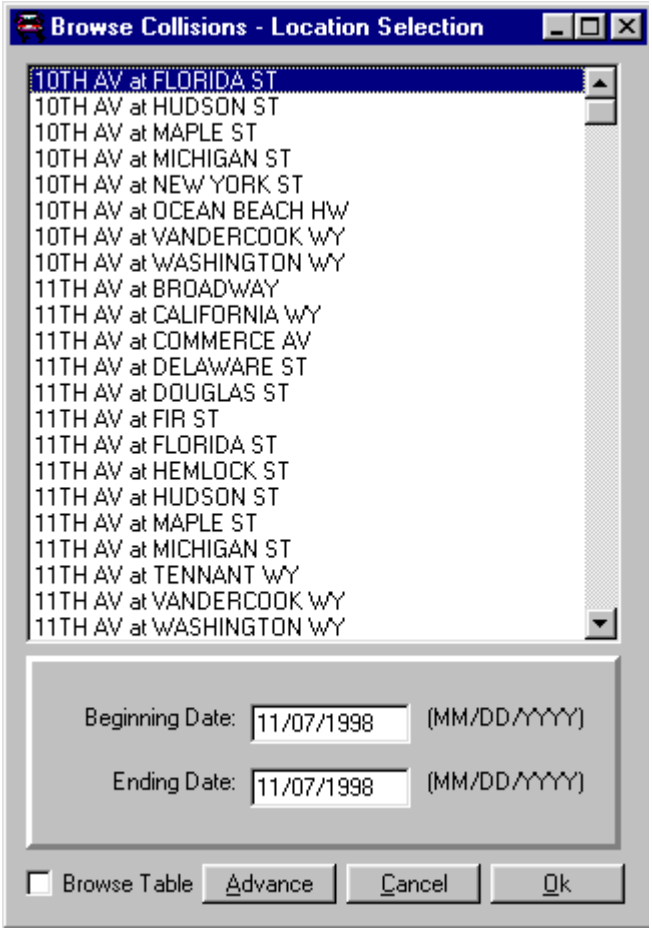
- Click on the **Beginning Date** Field
- Double click the mouse. This will highlight the entire field.
- Enter **01/01/1997**.
- Click on the Ending Date Field
- Simultaneously press C 1. The Ending Date will be **12/31/1997.**

**Point of Interest:** Microsoft and Logitech make a mouse with a wheel between the two buttons. This wheel can be programmed so that when the wheel is depressed, it will perform a double click. This shortcut can save a lot of time.

# Selecting an Intersection

When browsing data, editing data, batch-deleting data, displaying a collision diagram, reporting, or graphing, a set of data can be selected by an intersection. The method of selecting an intersection and then entering the date period is the same throughout the *Collision Record System*; and the same shortcuts keys are available.

The following form is an example where an intersection can be selected.




This form has the following controls:

**Location List Box:**
The Location List Box displays the list of intersections that is in the database table CRS when the *Collision Record System* is invoked.

When the *Collision Record System* is started, the program performs several housekeeping tasks. One of these housekeeping functions is to scan the database table CRS and update the database table LocationList. This database table stores all the intersections contained in the database table, CRS, and the earliest and most current dates of the collisions for that particular intersection.

As the highlight bar is moved from one intersection to another, the **Beginning Date** and **Ending Date** fields are updated to reflect the earliest and most current date for the highlighted intersection.

**Beginning Date / Ending Date:**
The Beginning Date and Ending Date are date fields. These fields act identically with date fields described in the previous section. These fields specify the date period for which the highlighted intersection is to be filtered.

**Browse Table:**
The Browse Table is a check box field and only appears when the File-Browse-Collision menu option is chosen. Check this box if the collisions are to be viewed in the browse table.

**Advance:**
Clicking the Advance command button will bring up the Advance Query form. The Advance Query form allows further filtering of data. See the section, **Advance Querying**, for instructions on how to add an advance query.

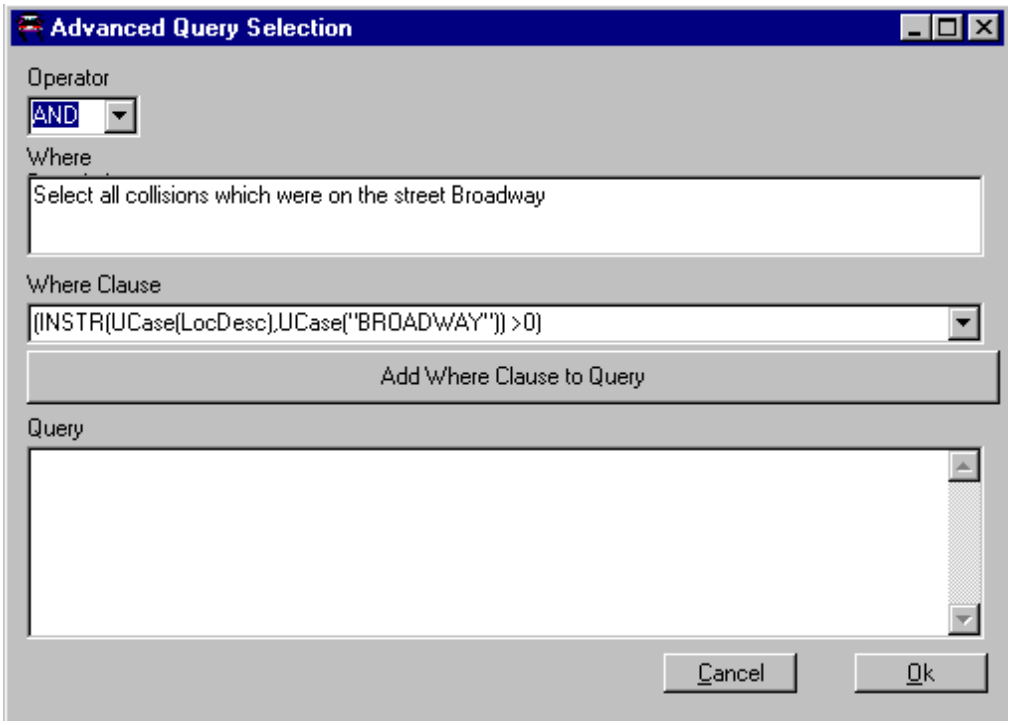
**Cancel:**
The Cancel button will terminate the menu option where the **Location Selection** form appears and returns to the Main Menu.

**Ok:**
Clicking Ok tells the *Collision Record System* that the proper intersection has been chosen, the date period is selected, and any advance query has been selected. The database table CRS will be scanned for matching records; and the menu option chosen will continue.

# Advance Querying

The *Collision Record System's* database is a Microsoft Access database. To select specific records from the database, it must be queried. This is done using SQL, Structured Query Language.

For the typical user of this software, learning and implementing SQL queries would be difficult and time consuming. In order to shield the user from SQL an **Advanced Query Selection** form has been developed. This form is invoked when the **Advance** button is clicked. The following is the **Advanced Query Selection** form.




The Advance Query Selection form has seven fields.

**Operator:** The Operator field is a drop down list and contains only two options, AND and OR.

The majority of advance queries are AND queries. Example: All collisions that are right angles AND have injuries.

> **Note:** Using the **OR** operator is not as straightforward as using the **AND** operator. The **OR** operator may require that additional parentheses be added to the query. This may require trial and error.

**Where:** The **Where** description field is a text box which displays the description of the current **Where Clause**.

**Where Clause:** The **Where Clause** is a drop down list located directly below it's associated Where description text box.

As with all drop down lists, a selection can be made using either the mouse or the keyboard. For novice users of the *Collision Record System*, selecting a **Where Clause** should be accomplished using the keyboard.

Click on the **Where Clause** to make it the active field. Using Z and Y scroll through the list of **Where Clauses**. As each **Where Clause** is displayed, its associated description will be displayed above in the Where text box.

Using the mouse in the **Where Clause** drop down list will allow the **Where Clause** to be viewed more quickly: however, the Where description does not change until a new **Where Clause** is actually selected by clicking with the mouse.

**Add Where Clause to Query:** Once the desired **Where Clause** is selected click the **The Add Where Clause to Query** button. The **Operator** and **Where Clause** is inserted into the Query text box.

**Query:** The **Query** field is a text box. When the **Add Where Clause to Query** is clicked, the **Operator** and the **Where Clause** is inserted into the **Query** text box.

Example: The database is to be queried for collisions that are right angle and have injuries. Do the following

- Move to the Where Clause drop down list.
- Press Y until the Where text box says, "Select when type of collision is Right Angle" and the Where Clause displays "((TypeOfColl=0))."
- Click the Add Where Clause to Query. The following will be inserted into the Query text box. "AND ((TypeOfColl=0))."
- Move to the Where Clause drop down list.
- Press Y, until the Where text box says, "Select where there are injuries" and the Where Clause displays "((Injuries>0))."

**Cancel:** Clicking the **Cancel** button will cancel all advanced queries.

**Ok:** Clicking the **Ok** button will add the advanced query to the selection process.

**Note:** The intent of the **Advance Query** it to allow the user to query the database without knowing SQL. If you have a need to query the database and you are having difficulty creating the proper query, contact John Bean either by E-Mail (**john.bean@ci.longview.wa.us**) or telephone **(360) 577-3377**.

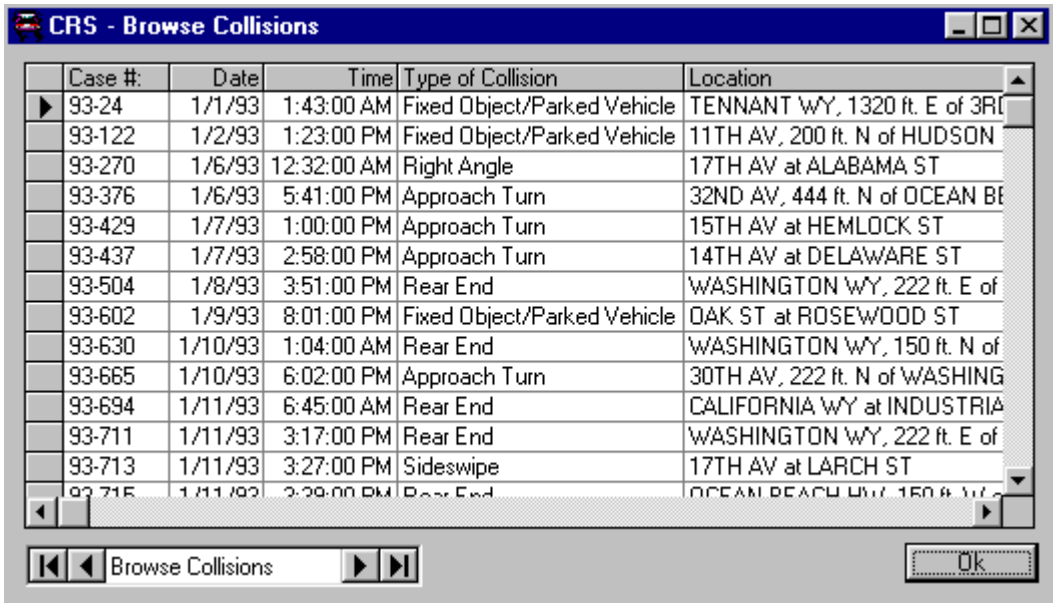
The query will be developed and the file, **Query.txt**, which contains all the query definitions, will be updated and sent back by E-Mail.

# Browsing Data Using a Browse Table

The *Collision Report System* allows data to be browsed in the following database tables:

| Table Name | Type of Data |
|---|---|
| CRS | Data collision records |
| StreetList | Street names |
| Volumes | Intersection entering ADT volumes |
| CorridorList | Corridors and their intersecting streets |

Data from each of these tables can be browsed in **"Browse Table."** The following is an example of a Browse Table displaying data records from the database table CRS.




The data is displayed in a spreadsheet type format, with data fields as columns, and data records as rows. The following is a description of navigating a Browse Table.

**Browse Table Navigation:**

As shown in the example above, the left most column is gray and has a pointer (a solid triangle) that is positioned on the first record of data. Moving the pointer can be accomplished in two ways.

- By clicking on the left most column (which houses the pointer). Clicking on this column will move the pointer to the row that was clicked.
- By using the data positioning control. The data positioning control is located directly under the browse table.

The data positioning control has four (4) arrows, two to the left and two to the right. Each outside arrow has a vertical bar in front of the arrow point.

Clicking the inside **left arrow** will move the pointer to the **previous record**. Clicking the **left arrow** with the **vertical bar** will move the pointer to the **first record**.

Clicking the inside **right arrow** will move the pointer to the **next record**. Clicking the **right arrow** with the **vertical bar** will move the pointer to the **last record**.

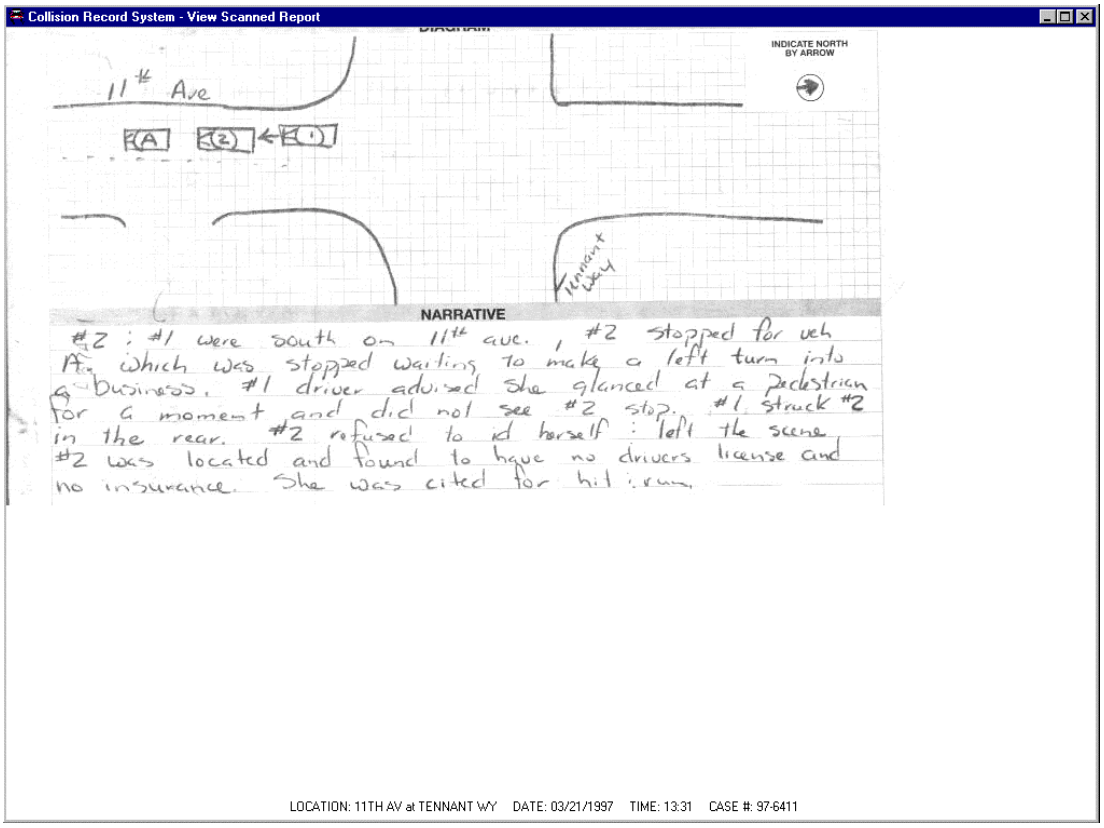
The records that are displayed in the browse table can be scrolled via the vertical scroll bar located on the right hand side of browse table. This vertical scroll bar acts like a typical Windows vertical scroll bar. Using the vertical scroll bar **does not** move the pointer.

The width of the columns can be adjusted. To change the width of a column, move the mouse pointer to the top of the column that contains the data field name. While the mouse pointer is still in the top of the column, move the mouse pointer to the right until the mouse pointer changes to a vertical bar with a left and right arrow. Holding the left mouse button, drag the mouse pointer to adjust the column width.

**Note:** The method just described for adjusting column widths is the same as the method used to manually change column widths in Microsoft Excel.

# Viewing Scanned Images

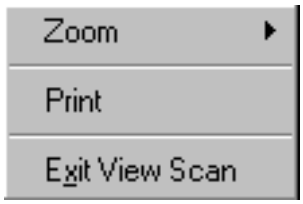
The *Collision Record System* allows the viewing of scanned images when browsing collision records and for after the printing many of the reports. The following is an example of a scanned image.



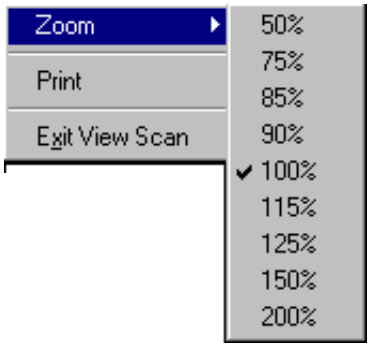

The image that was scanned is displayed in the upper left hand corner. Along the bottom the following information is displayed.

- Location of the Collision
- Collision Date
- Time of the Collision
- Case Number

The scanned image can be zoomed, printed or the viewing processed can be terminated. Click the **right** mouse button to display the following "pop up" menu.




Clicking **Zoom** will display the zoom options. The following is the zoom sub-menu.




The current zoom factor is "checked". To change the zoom factor, click the desired choice.

> **Note:** When the print option is chosen, what you see on the screen will be printed, therefore, make sure to have the zoom scale selected to print the desired area.

Clicking the **left** mouse button will tell the *Collision Record System* that you are finished viewing the currently displayed scanned image.

# Running The Collision Record System

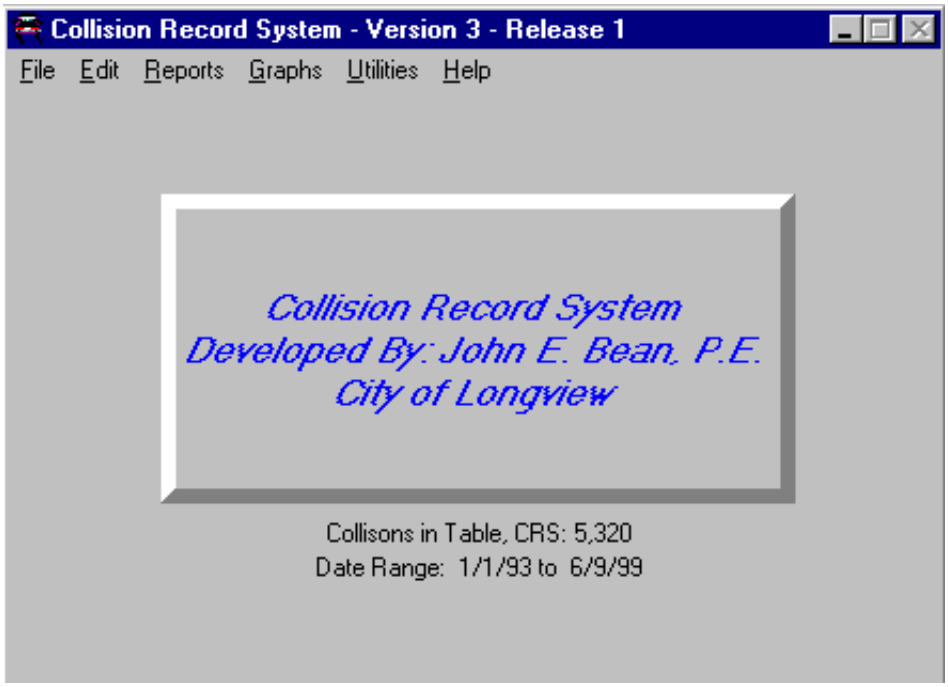
Prior to displaying the *Collision Record System's* **Main Menu**, several housekeeping operations are automatically performed.

- A database file backup is created. All the data is stored in the Microsoft Access database, UTEC.MDB. When the *Collision Record System* is invoked, a copy of the database is made and is named, UTEC.BAK.

- The database is optimized. The database UTEC contains several data tables. Several of these tables are used to store temporary data for reports and graphs. After creating a backup of the UTEC database, all extraneous records in the data tables are deleted and the database is compacted. Compacting the database reduces the size of the database and makes the *Collision Record System* operate more efficiently and faster.

- The Location List is rebuilt. A location can be chosen when browsing or editing collision data, and when selecting reports. Each time the *Collision Record System* is started the location list is rebuilt.

Once these housekeeping functions are completed, the *Collision Record System's* main menu is displayed. The following is the *Collision Record System's* Main Menu form.




The *Collision Record System's* has six (6) Main Menu headings: **File**, **Edit**, **Reports**, **Graphs**, **Utilities**, and **Help**. Clicking on a heading will select the heading, or if the heading has options the options will be displayed vertically underneath its heading.

The following are the Main Menu headings that have options and their respective options.

**File**
- New
- Browse
- Export Year
- Import Year
- Batch Delete
- Exit

**Edit**
- Collisions
- Volumes
- Streets
- Corridor
- CD Table

**Reports**
- Collisions
- Volumes
- Streets
- Corridors
- Database Summary

**Graphs**
- Location
- Database

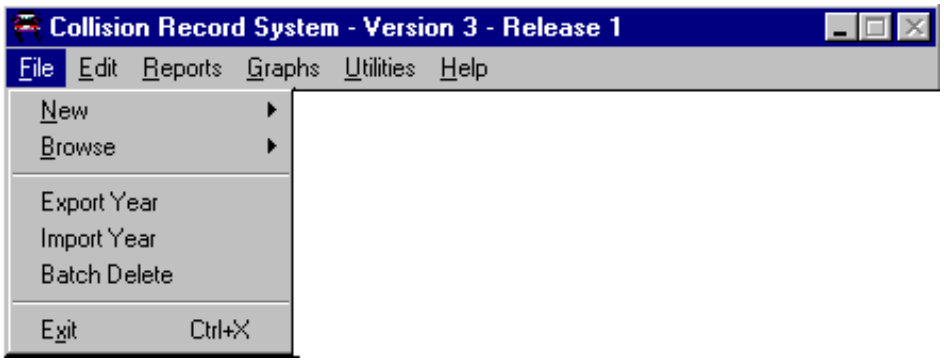
**Utilities**
- Build Location List
- Recalculate Collision ID
- Create Folders
- Convert
- Options

**Help**
- Contents
- Search For Help On …
- About Collision Record System

The following sections of the manual will describe each module that can be accessed from the Main Menu.

# File

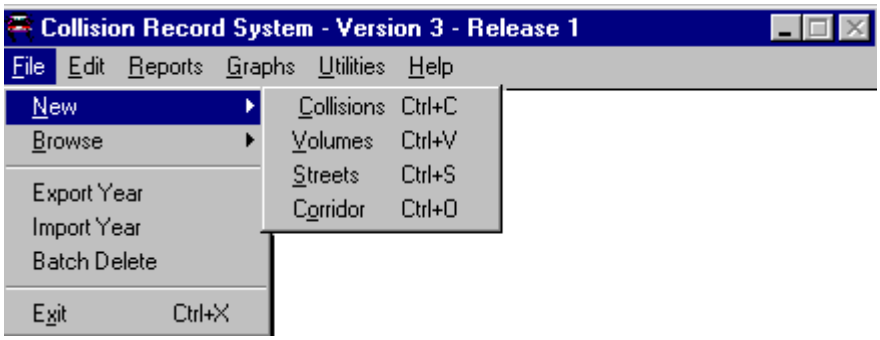
The **File** menu option performs file related tasks. When the **File** menu option is chosen by either clicking on **File**, or pressing A f , the **File** options are displayed. The following are the **File** options.




## File - New:

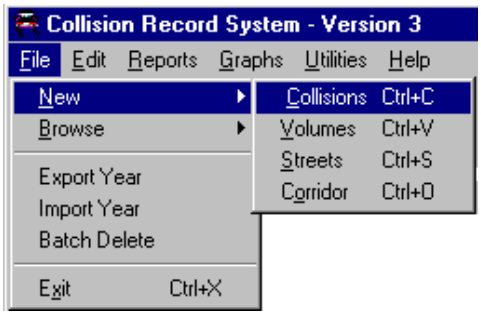
The **File-New** option's purpose is to either enter new data records into the data tables which are included in the UTEC database, or to define new corridors from the existing street list data table.

Once the **New** option is chosen, its submenu is displayed. The following are the **File-New's** options.

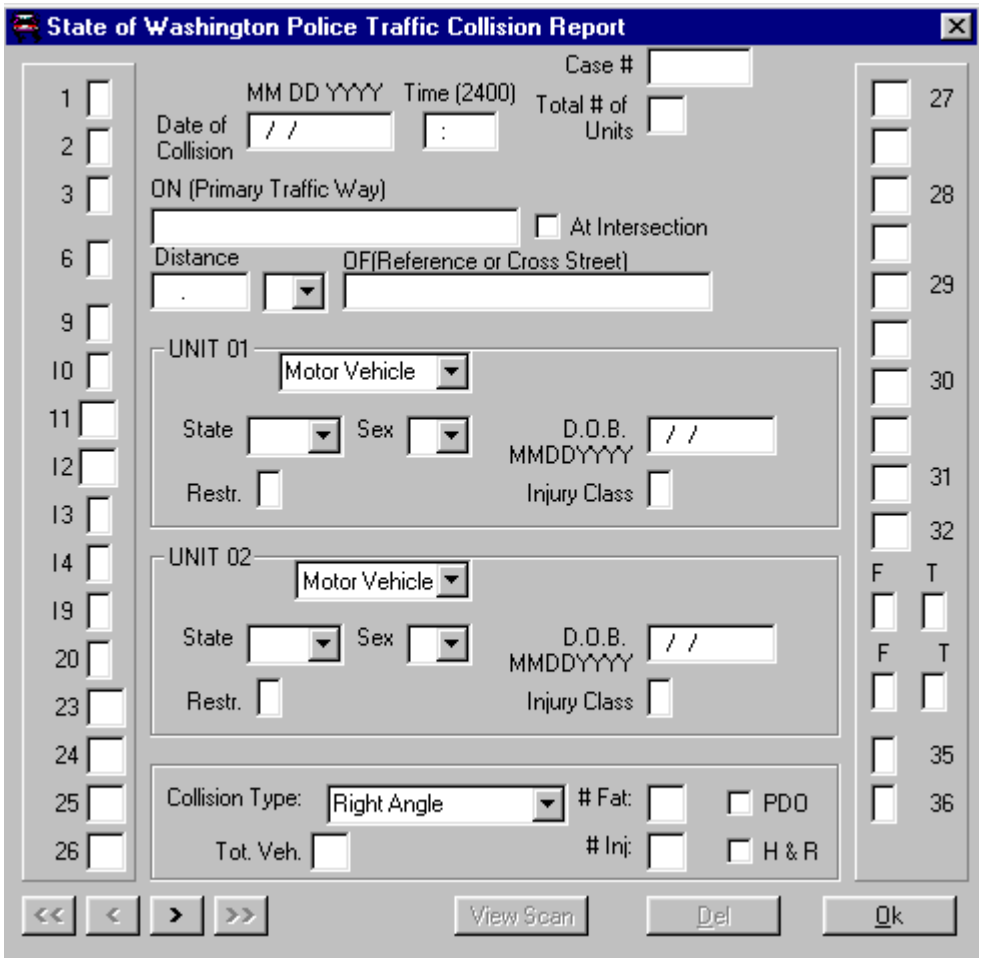



As the menu structure illustrates, there are four (4) options that can be selected. The following is a detailed description for each of the File-New's options.

## File – New-Collisions:




**New Collisions** allows new traffic collision records to be manually entered and stored in the database table *CRS*. Once **New Collisions** has been selected the **State of Washington Police Traffic Collision Report** form will be displayed.




The form was designed to look like the State of Washington Police Traffic Collision Report. Many short cut keys have been built into this form to make the data entry process as easy and fast as possible.

The following are the fields included on this form.

## Box #1 – Roadway Surface Condition

**Type of Field:** Numeric
**Range:** 1-9
**Required Field:** No

The Roadway Surface Condition field has the following choices:

1. Dry
2. Wet
3. Snow/Slush
4. Ice
5. Sand/Mud/Dirt
6. Oil
7. Standing Water
8. Other
9. Unknown

## Box #2 – Weather

**Type of Field:** Numeric
**Range:** 0-9
**Required Field:** No

The Weather field has the following choices:

0. Unknown
1. Clear/Partly Cloudy
2. Overcast
3. Raining
4. Snowing
5. Fog/Smog/Smoke
6. Sleet/Hail/Freezing Rain
7. Severe Crosswind
8. Blowing Sand/Dirt/Snow
9. Other

## Box #3 – Light Conditions

**Type of Field:** Numeric
**Range:** 1-9
**Required Field:** No

The Light Conditions field has the following choices:

1. Daylight
2. Dawn
3. Dusk
4. Dark – Street Lights On

5. Dark – Street Lights Off
6. Dark – No Street Lights
7. Other
9. Unknown

## Box #6 – Roadway Character

**Type of Field:** Numeric
**Range:** 1-9
**Required Field:** No

The Roadway Character field has the following choices:

1. Straight & Level
2. Straight & Grade
3. Straight & Hillcrest
4. Straight in Sag
5. Curve & Level
6. Curve & Grade
7. Curve at Hillcrest
8. Curve in Sag
9. Unknown

## Box #9 – Traffic Control, Primary Traffic Way

**Type of Field:** Numeric
**Range:** 0-9
**Required Field:** No

The Traffic Control field is for the Primary Traffic Way and has the following choices:

0. Unknown
1. Signals
2. Stop Sign
3. Yield Sign
4. Flashing Red
5. Flashing Amber
6. RR Signal
7. Officer/Flagger
8. Other Traffic Control
9. No Traffic Control

## Box #10 – Traffic Control, Reference Street or Cross Street

**Type of Field:** Numeric
**Range:** 0-9
**Required Field:** No

The Traffic Control field pertains to the Reference Street if the collision occurred at an intersection or the Cross Street if the collision is not intersection related. The following are the choices:

0. Unknown
1. Signals
2. Stop Sign
3. Yield Sign
4. Flashing Red
5. Flashing Amber
6. RR Signal
7. Officer/Flagger
8. Other Traffic Control
9. No Traffic Control

## Box #11 – Posted Speed, Primary Traffic Way

**Type of Field:** Numeric
**Range:** 20-70
**Required Field:** No

The Posted Speed Limit on the Primary Traffic Way is entered in this field. The values can range from 20 to 70.

**Note:** This field should be one of the fields checked during the coding process. (See the section, **Coding Traffic Collision Reports** in the **Appendix**). Many times the police will write in the speed the vehicles were traveling instead of the posted speed limit.

## Box #12 – Posted Speed Limit on the Reference Street/Primary Traffic Way

**Type of Field:** Numeric
**Range:** 20-70
**Required Field:** No

If the collision occurred at an intersection the Posted Speed Limit on the intersecting street (Reference Street) is entered in this field. If the collision was on the Primary Traffic Way at a distance from a cross street, then the speed limit (posted) of the Primary Traffic Way is entered in this box. The values can range from 20 to 70.

**Note:** This field should be one of the fields checked during the coding process. (See the section, **Coding Traffic Collision Reports** in the **Appendix**). Many times the police will write in the speed the vehicles were traveling instead of the posted speed limit.

Another typical error the police make in coding this field is entering the speed limit of the Cross Street. If the collision occurred on a street at a specified distance from a cross street, then the speed limit for this field should be the same as the speed limit in the previous field.

## Box #13 – Type of Roadway, Primary Traffic Way

**Type of Field:** Numeric
**Range:** 0-9
**Required Field:** No

The Type of Roadway field for the Primary Traffic Way is entered in this field and has the following choices:

0. Unknown
1. One Way
2. Two Way – Undivided
3. Two Way – Divided, with Barrier
4. Two Way – Divided, no Barrier
5. Reversible Road
6. Interchange Ramp
7. Alley
8. Center – Two Way Left Turn Lane
9. Driveway

## Box #14 – Type of Roadway, Reference Street/Cross Street

**Type of Field:** Numeric
**Range:** 0-9
**Required Field:** No

The Type of Roadway field pertains to the Reference Street if the collision occurred at an intersection or the Cross Street if the collision is not intersection related. The following are the choices:

0. Unknown
1. One Way
2. Two Way – Undivided

3. Two Way – Divided, with Barrier
4. Two Way – Divided, no Barrier
5. Reversible Road
6. Interchange Ramp
7. Alley
8. Center – Two Way Left Turn Lane
9. Driveway

## Box #19 – Pedestrian/Pedalcylist Was Using, Primary Traffic Way

**Type of Field:** Numeric
**Range:** 1-8
**Required Field:** No

The Pedestrian/Pedalcylist Was Using field for the Primary Traffic Way has the following choices:

1. Sidewalk
2. Walkway
3. Shoulder
4. Marked X Walk
5. Unmarked X Walk
6. Other
7. Designated Bike Route
8. Roadway

## Box #20 – Pedestrian/Pedalcylist Was Using, Reference Street/Cross Street

**Type of Field:** Numeric
**Range:** 1-8
**Required Field:** No

The Pedestrian/Pedalcylist Was Using field pertains to the Reference Street if the collision occurred at an intersection or the Cross Street if the collision is not intersection related. The following are the choices:

1. Sidewalk
2. Walkway
3. Shoulder
4. Marked X Walk
5. Unmarked X Walk
6. Other
7. Designated Bike Route
8. Roadway

## Box #23 – Pedestrian Action, Unit One

**Type of Field:** Numeric
**Range:** 1-19
**Required Field:** No

The Pedestrian Action for Unit One **should not be on this form**. Pedestrians are not an option for Unit One.

## Box #24 – Pedestrian Action, Unit Two

**Type of Field:** Numeric
**Range:** 1-19
**Required Field:** No

The Pedestrian Action field has the following choices:

1. Xing at Intersection with Signal
2. Xing at Intersection Against Signal
3. Xing at Intersection – No Signal
4. Xing at Intersection – Diagonally
5. From Behind Parked Vehicle
6. Xing – Non Intersection – No X Walk
7. Xing – Non Intersection – In X Walk
8. Walk'g in Roadway with Traffic
9. Walk'g in Roadway Opposite Traffic
10. Walk'g on Roadway Shoulder with Traffic
11. Walk'g on Roadway Shoulder Opposite Traffic
12. Standing or Working in Roadway
13. Pushing or Working on Vehicle
14. Playing in Roadway
15. Lying in Roadway
16. Not in Roadway
17. All Other Actions
18. Fell or Pushed into Path of Vehicle
19. At Intersection Not Using Crosswalk

## Box #25 – Pedalcyclist Action, Unit One

**Type of Field:** Numeric
**Range:** 43-50
**Required Field:** No

The Pedalcyclist Action field for Unit One has the following choices:

43. Xing Diagonally
44. Riding with Traffic
45. Riding Against Traffic

46. Fell or Pushed into Path of Vehicle
47. Cyclist Turned into Path of Vehicle-Same Direction
48. Cyclist Turned into Path or Vehicle-Opposite Direction
49. All Other Actions
50. Xing or Entering Trafficway

## Box #26 – Pedalcyclist Action, Unit Two

**Type of Field:** Numeric
**Range:** 43-50
**Required Field:** No

The Pedalcyclist Action field for Unit One has the following choices:

43. Xing Diagonally
44. Riding with Traffic
45. Riding Against Traffic
46. Fell or Pushed into Path of Vehicle
47. Cyclist Turned into Path of Vehicle-Same Direction
48. Cyclist Turned into Path or Vehicle-Opposite Direction
49. All Other Actions
50. Xing or Entering Trafficway

**Note:** On the State of Washington Police Traffic Collision Report there are more boxes on the right side than are provided in this form. If there are more data than available boxes, then the user must decide which information is the most important.

## Box #27A & B – Contributing Circumstances, Unit One

**Type of Field:** Numeric
**Range:** 1-24, 30-36
**Required Field:** No

The two Contributing Circumstances fields for Unit One have the following choices:

1. Under Influence of Alcohol
2. Under Influence of Drugs
3. Exceeding Stated Speed Limit
4. Exceeding Reasonable Safe Speed
5. Did Not Grant R/W to Vehicle
6. Improper Passing
7. Following Too Closely
8. Over Center Line
9. Failing to Signal
10. Improper Turn

11. Disregard Stop and Go Signal
12. Disregard Stop Sign/Flashing Red
13. Disregard Yield Sign/Flashing Yellow
14. Apparently Asleep
15. Improper Parking Location
16. Operating Defective Equipment
17. Other
18. None
19. Improper Signal
20. Improper U Turn
21. Light Violation: Not Lights/Fail to Dim
22. Did Not Grant R/W to Pedestrian/Pedalcyclist
23. Inattention
24. Improper Backing
30. Disregard Flagger/Officer
31. Apparently Ill
32. Apparently Fatigued
33. Had Taken Medication
34. On Wrong Side of Road
35. Hitchhiking
36. Failure to Use XWalk

**Note:** The *Collision Record System* has extensive error checking built in. For example, the program checks to make sure vehicle one is at fault. If an 18 is entered in this field, and the Contributing Circumstances for Unit Two is not an 18, upon approval, the program will automatically switch all the appropriate values to make vehicle one at fault.

## Box #28A & B – Contributing Circumstances, Unit Two

**Type of Field:** Numeric
**Range:** 1-24, 30-36
**Required Field:** No

The two Contributing Circumstances fields for Unit Two have the following choices:

1. Under Influence of Alcohol
2. Under Influence of Drugs
3. Exceeding Stated Speed Limit
4. Exceeding Reasonable Safe Speed
5. Did Not Grant R/W to Vehicle
6. Improper Passing
7. Following Too Closely
8. Over Center Line

9. Failing to Signal
10. Improper Turn
11. Disregard Stop and Go Signal
12. Disregard Stop Sign/Flashing Red
13. Disregard Yield Sign/Flashing Yellow
14. Apparently Asleep
15. Improper Parking Location
16. Operating Defective Equipment
17. Other
18. None
19. Improper Signal
20. Improper U Turn
21. Light Violation: Not Lights/Fail to Dim
22. Did Not Grant R/W to Pedestrian/Pedalcyclist
23. Inattention
24. Improper Backing
30. Disregard Flagger/Officer
31. Apparently Ill
32. Apparently Fatigued
33. Had Taken Medication
34. On Wrong Side of Road
35. Hitchhiking
36. Failure to Use XWalk

**Shortcut Key:** A z, A /

**Shortcut Action:** Inserts the following values in the following fields.

Box 28A: 18
Box 28B: Blank
Box 29A: 1
Box 29B: Blank
Box 30A: 1
Box 30B: Blank
Box 31: 12
Box 32: 12

There are numerous traffic collision reports where unit two is not at fault, both units are traveling straight, and both vehicles are not malfunctioning. The above shortcut inserts these values.

## Box #29A & B – Vehicle Actions, Unit One

**Type of Field:** Numeric
**Range:** 1-22
**Required Field:** No

The two Vehicle Actions fields for Unit Two have the following choices:

1. Going Straight Ahead
2. Overtaking and Passing
3. Making a Right Turn
4. Making Left Turn
5. Making U-Turn
6. Slowing
7. Stopped for Traffic
8. Stopped at Signal or Stop Sign
9. Stopped in Roadway
10. Starting in Traffic Lane
11. Starting From Parked Position
12. Merging (Entering Traffic)
13. Legally Parked, Occupied
14. Legally Parked, Unoccupied
15. Backing
16. Going Wrong Way on Divided Hwy
17. Going Wrong Way on Ramp
18. Going Wrong Way on On-Way Street or Road
19. Other
20. Changing Lanes
21. Illegally Parked, Occupied
22. Illegally Parked, Unoccupied

This field is one of the fields that typically is coded incorrectly by the officer. **CHECK CAREFULLY.**

## Box #30A & B – Vehicle Actions, Unit Two

**Type of Field:** Numeric
**Range:** 1-22
**Required Field:** No

The two Vehicle Actions fields for Unit Two have the following choices:

1. Going Straight Ahead
2. Overtaking and Passing
3. Making a Right Turn
4. Making Left Turn
5. Making U-Turn
6. Slowing
7. Stopped for Traffic
8. Stopped at Signal or Stop Sign
9. Stopped in Roadway
10. Starting in Traffic Lane
11. Starting From Parked Position
12. Merging (Entering Traffic)
13. Legally Parked, Occupied

14. Legally Parked, Unoccupied
15. Backing
16. Going Wrong Way on Divided Hwy
17. Going Wrong Way on Ramp
18. Going Wrong Way on On-Way Street or Road
19. Other
20. Changing Lanes
21. Illegally Parked, Occupied
22. Illegally Parked, Unoccupied

## Box #31 – Vehicle Condition, Unit One

**Type of Field:** Numeric
**Range:** 1-16
**Required Field:** No

The Vehicle Condition field for Unit One has the following choices:

1. Defective Brakes
2. Defective Headlights
3. Defective Rear Lights
4. Tires Worn or Smooth
5. Tires Punctured or Blown
6. Lost a Wheel
7. Defective Steering Mechanism
8. Power Failure
9. Headlights Glaring
10. Other Lights/Reflectors Insufficient
11. Other Defects
12. No Defects
13. Motorcycle – Lights Off
14. Equipped with Studded Tires
15. Motorcycle Windshield Installed
16. Truck/Trailer Safety Inspection

**Note:** In over 90% of the collision records that the author has coded, this field and field 31 are coded as **12**.

## Box #32 – Vehicle Condition, Unit Two

**Type of Field:** Numeric
**Range:** 1-16
**Required Field:** No

The Vehicle Condition field for Unit One has the following choices:

1. Defective Brakes

2. Defective Headlights
3. Defective Rear Lights
4. Tires Worn or Smooth
5. Tires Punctured or Blown
6. Lost a Wheel
7. Defective Steering Mechanism
8. Power Failure
9. Headlights Glaring
10. Other Lights/Reflectors Insufficient
11. Other Defects
12. No Defects
13. Motorcycle – Lights Off
14. Equipped with Studded Tires
15. Motorcycle Windshield Installed
16. Truck/Trailer Safety Inspection

## Boxes F(rom) -> T(o), Unit #1

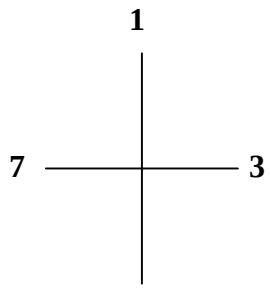
**Type of Field:** Numeric
**Range:** 0, 1, 3, 5, 7, 9
**Required Field:** F-Yes, T-No

These two fields describe the direction of movement of Unit One. The following are the valid numeric values and their respective definitions.

| **Number** | **Definition** |
|---|---|
| 0 | Backing |
| 1 | North |
| 3 | East |
| 5 | South |
| 7 | West |
| 9 | Stopped |

The **From** field is a **required** field, whereas the **To** field is **not required** but contain a value in the majority of the collision reports.

The following diagram illustrates the code numbers and their respected direction assignments.



**5**

The *Collision Record System* only supports streets traveling north/south and east/west. If a particular collision report is coded using 2, 4, 6, or 8 as directions, their values must be changed to the values listed above.

Examples:

1. Unit One is traveling southbound: F=1, T=5
2. Unit One is traveling south and turns left: F=1, T=3
3. Unit One is traveling eastbound and is stopped in the traffic lane to turn into a driveway: F=7, T=3.

> **Note:** In example 3, although the unit is going to make a left turn, the unit has not made the left turn and is still traveling east. This example is commonly miscoded.

4. Unit one is traveling west, stops and is rear-ended: F=3, T=7.

> **Note:** In example 4, although the unit is stopped in the travel lane, the unit is still traveling west. Many times the police will code T=9 and leave F blank. This is incorrect for the *Collision Record System*.

5. Unit one is traveling north, stops in the lane of travel and backs into the vehicle directly behind: T=0, F=(Blank).
6. Unit one is traveling north and turns right: T=5, F=3.

**UNIT ONE MUST BE THE UNIT AT FAULT!!!**

The *Collision Record System* assumes that unit one is at fault for various calculations and in plotting the collision diagram.

**Note:** The State of Washington Police Collision Report does not allow Unit One to be a pedestrian. Therefore, if the collision report includes a pedestrian and the pedestrian is at fault, the pedestrian cannot be entered as Unit One.

.

Be sure to check the coding of unit's one Vehicle Action, boxes 29A and 29B. Many times the codes do not correspond. The Vehicle Action will state the unit is turning when the unit is actually stopped in the travel lane waiting to turn. The *Collision Record System* uses the Vehicle Actions and the From and To values to determine the type of collision, and for generating a collision diagram.

## Boxes F(rom) -> T(o), Unit #2

**Type of Field:** Numeric
**Range:** 0, 1, 3, 5, 7, 9
**Required Field:** F-No, T-No

These two fields describe the direction of movement of unit two. The following are the valid numeric values and their respective definitions.

| Number | Definition |
|---|---|
| 1 | North |
| 3 | East |
| 5 | South |
| 7 | West |
| 9 | Stopped |
| 0 | Backing |

Neither the **From** field nor the **To** field is **required.**

The *Collision Record System* only supports streets traveling north/south and east/west. If a particular collision report is completed using 2, 4, 6, or 8 as directions, their values must be changed to the values listed above.

## Boxes #35 – Sobriety, Unit One

**Type of Field:** Numeric
Range: 1-4, 9
**Required Field:** No

The Sobriety field for Unit One has the following choices:

1. HBD - Ability Impaired
2. HBD - Ability Not Impaired
3. HBD - Sobriety Unknown
4. HBD - Had Not Been Drinking

9 Unknown

## Boxes #36 – Sobriety, Unit Two

**Type of Field:** Numeric
**Range:** 1-4, 9
**Required Field:** No

The Sobriety field for Unit Two has the following choices:

1. HBD - Ability Impaired
2. HBD - Ability Not Impaired
3. HBD - Sobriety Unknown
4. HBD - Had Not Been Drinking

9 Unknown

## Case #

**Type of Field:** Alphanumeric
**Length:** 8
**Required Field:** Yes

The Case # is an alphanumeric field that can be up to 8 characters in length. Most collision reports have the case number beginning with the year followed by a number.

Example: 99-13245

**This is the only field that has to be unique.** Two records cannot have the same Case #. If a duplicate case number is entered, an error message will appear and the *Collision Record System* will be terminated.

## Date of Collision

**Type of Field:** Date
**Length:** 10 (MM/DD/YYYY)
**Required Field:** Yes

The Date of Collision is a required field. The year must be entered in a four (4) digit format.

All four digits of the year are required.

The date field can be considered to have three (3) sub-fields linked together. The three sub-fields are:

- Month
- Day
- Year

Both the month and day sub-fields are two characters in length, whereas the year sub-field is four characters in length. When a sub-field is filled, the cursor will jump to the next sub-field. Therefore, if the month or day is less than ten (10), then entering a leading zero and **then** the number will cause the cursor automatically to jump to the next sub-field.

**Shortcut Key:** A z, A /
**Shortcut Action:** Insert the previous record's collision date.

## Time of Collision

**Type of Field:** Date
**Length:** 5 (HH:MM)
**Required Field:** Yes

The Time of Collision is a required field. Time fields are to be entered in 24 Hour format.

The time field can be considered to have two sub-fields linked together. The two sub-fields are;

- Hour
- Minute

Both the hour and minute sub-fields are two characters in length. When a sub-field is filled, the cursor will jump to the next sub-field. Therefore, if the hour or minute is less than ten (10), entering a leading zero and **then** the number will cause the cursor automatically to jump to the next sub-field.

**Note:** If a traffic collision report does not have an entry in the time of collision field, then turn to the second page and use the time of dispatch

## Total # of Units:

**Type of Field:** Numeric
**Range:** 0-99
**Required Field:** No

The **Total # of Units** can be a confusing field. This field is **NOT** identical to the **Total Vehicles** field listed further in this section. A pedestrian, a tree, a guardrail, or a sign can be considered a unit.

> **Note:** Although the **Total # of Units** field is not identical to the **Total Vehicles** field, in the majority of instances entries in the two fields are the same. Therefore, the *Collision Record System* automatically "pokes" the value of **the Total # of Units** into the **Total Vehicles** field when the Total Vehicle field gets focus.

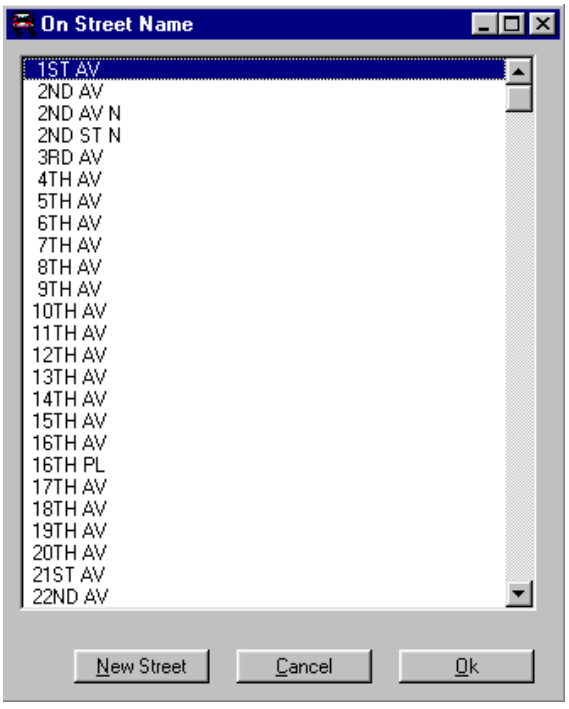
## On (Primary Traffic Way)

**Type of Field:** Alphanumeric
**Length:** 40
**Required Field:** Yes

The collision occurred on a street. That street's name is selected from a list and goes into this field.

Once the **On** field gets focus, and if the field is blank, the **Select Street** form is displayed. The street the collision occurred on can be selected from the list, or if the street does not exist on the list on the **Select Street** form, the street can be added to the list.

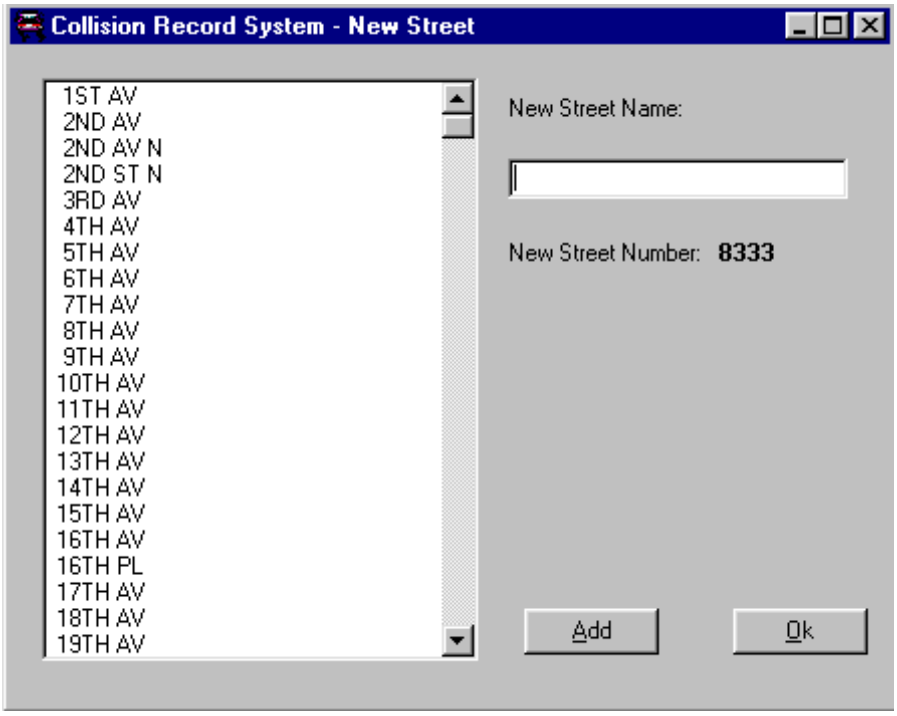
The following is an example of the **Select Street** form.



The street names are displayed in a list box. The desired street can be selected as described in Section I of this manual.

If the street the collision occurred on is not on the list, the street can be added either by clicking the **New Street** button or by pressing A n.

Once the New Street button has been selected the **New Street** form will appear. The following is the **New Street** form.




Each street has its own unique number. The *Collision Record System* uses this number internally.

The **New Street** form will automatically search the database table *StreetList* to determine the next available unique number. This number is displayed on the **New Street** form.

Type in the new street name in the text box and click **Add.** Once **Add** has been clicked, the *StreetList* database table will be searched for a duplicate street name. If the street name entered is unique, the street and its corresponding street number will be added to the list.

Clicking **Ok** will return to the **State of Washington Police Traffic Collision Report** form and insert the new street into the **On** field.

**Shortcut Key:** A z, A /

**Shortcut Action:** If the **On** field already has a street in the field, the **Select Street** form will be redisplayed allowing a different street to placed in the **On** field.

## At Intersection

**Type of Field:** Check Box
**Required Field:** N. A.

Each collision is either intersection related or shown as a distance from a cross street. Checking this field tells the *Collision Record System* the collision occurred at an intersection, and the **OF(Reference or Cross Street)** field will receive focus.

If the **At Intersection** check box is presently "checked" and then "unchecked", the Distance field will receive focus.

## Distance

**Type of Field:** Numeric
**Range:** 0-9999
**Required Field:** Sometimes

Each collision is either intersection related, or shown as a distance from a cross street. If the collision did **NOT** occur at an intersection then the **Distance** field is required.

The distance **must be entered in feet**. If the collision report lists the distance in miles, then the distance must be converted to feet. A table that lists fractions of a mile and their associated feet can be found in the appendix.

## From

**Type of Field:** Drop Down List
**Range:** One Character
**Required Field:** Sometimes

Each collision is either intersection related, or shown as a distance from a cross street. If the collision did **NOT** occur at an intersection then the **Distance** and **From** fields are required.

When the **From** field receive focus, the choices are automatically listed in a drop down list. Select the appropriate direction as described in Section I of this manual.

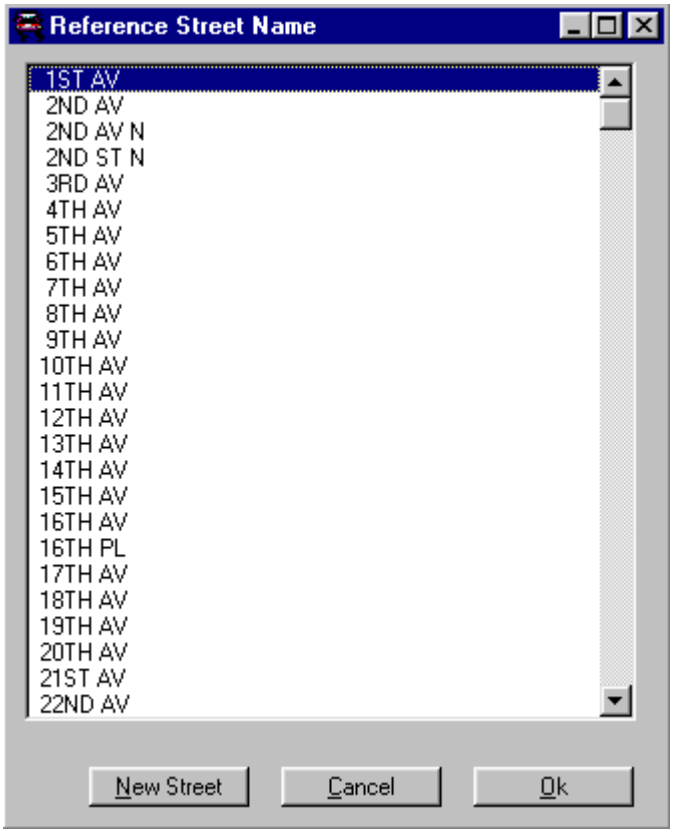
## OF (Reference or Cross Street)

**Type of Field:** Alphanumeric
**Length:** 40
**Required Field:** Yes

Each collision occurs on a street either at an intersection (reference) or at a distance from a cross street. The Reference or Cross Street is entered in this field.

Once the **OF** field gets focus, and if the field is blank, the **Select Street** form is displayed. The street the collision occurred on can be selected from the list on the **Select Street** form, or if the street does not exist on the list, the street can be added to the list.

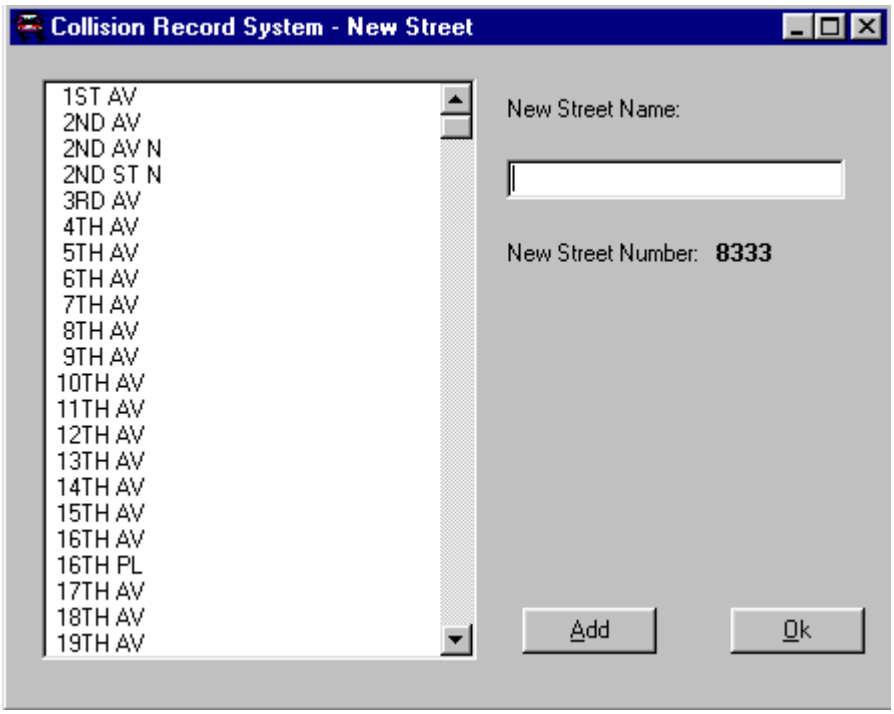
The following is an example of the **Select Street** form.




The street names are displayed in a list box. The desired street can be selected as described in Section I of this manual.

If the street the collision occurred on is not on the list, the street can be added by either clicking the **New Street** button or pressing A n.

Once the **New Street** button has been selected the **New Street** form will appear. The following is the **New Street** form.




Each street has its own unique number. The *Collision Record System* uses this number internally.

The **New Street** form will automatically search the database table *StreetList* to determine the next available unique number. This number is displayed on the **New Street** form.

Type in the new street name in the text box and click **Add.** Once **Add** has been clicked, the *StreetList* database table will be searched for a duplicate street name. If the street name entered is unique, the street and its corresponding street number will be added to the list.

Clicking **Ok** will return to the **State of Washington Police Traffic Collision Report** form and insert the new street into the **OF** field.

**Shortcut Key:** A z, A /

**Shortcut Action:** If the **OF** field already has a street in the field, the **Select Street** form will be redisplayed allowing a different street to placed in the **OF** field.

## Unit One:

**Type of Field:** Drop Down List
**Range:** Two Choices
**Required Field:** No

Each collision has at least one unit. The State of Washington Police Traffic Collision Report allows only two choices. Once the Unit One receives focus, a drop down list is displayed. The choices displayed in the list are:

Motor Vehicle
Pedal Cycle

Select the appropriate choice as described in Section I.

**Note:** In all possible cases, **Unit One should be the unit at fault**. However, if the unit at fault is a pedestrian, the pedestrian cannot be assigned to Unit One.

## State - Unit One:

**Type of Field:** Drop Down List
**Range:** Sixty-Six Choices
**Required Field:** No

This drop down list contains the choices for the state issuing Unit One's driver license. The choices for State-Unit One are:

| | | |
|---|---|---|
| WA | KY | NV |
| OR | LA | NY |
| AK | MA | OH |
| AL | MB | OK |
| AR | MD | ON |
| AS | ME | PA |
| AZ | MH | PE |
| BC | MI | PQ |
| CA | MN | PR |
| CO | MO | PW |
| CT | MP | RI |
| DC | MS | SC |
| DE | MT | SD |
| FL | NB | SK |
| FM | NC | TN |
| GA | ND | TX |

| | | |
|---|---|---|
| GU | NE | UT |
| Hi | NF | VI |
| IA | NH | WI |
| ID | NJ | WV |
| IN | NM | WY |
| KS | NS | AB |

**Note:** The majority of driver licenses you will encounter will be either Washington (WA) or Oregon (OR), therefore both these choices have been moved to the top of the drop down list.

**Shortcut Key:** A s (Alt ;), A f (Alt ‘)

**Shortcut Action:** Many of the drivers have a Washington driver’s license. If the Washingtonian is male, the shortcut keys A s will insert **WA** and **M** into the **State Unit One**, and **Sex Unit One** fields and move the focus to the **D.O.B Unit One (Date of Birth)** field.

If the Washingtonian is female, the shortcut keys A f will insert **WA** and **F** into the **State Unit One**, and **Sex Unit One** fields and move the focus to the **D.O.B Unit One (Date of Birth)** field.

## Date of Birth (DOB) – Unit One

**Type of Field:** Date
**Length:** 10 (MM/DD/YYYY)
**Required Field:** No

The Date of Birth of Unit One is a date field. The year must be entered in a four (4) digit format.

All four digits of the year are required.

The date field can be considered to have three (3) sub-fields linked together. The three sub-fields are:

- Month
- Day
- Year

Both the month and day sub-fields are two characters in length, whereas the year sub-field is four characters in length. When a sub-field is filled, the

cursor will jump to the next sub-field. Therefore, if the month or day is less than ten (10), entering a leading zero and **then** the number will cause the cursor automatically to jump to the next sub-field.

## Restraint – Unit One:

**Type of Field:** Numeric
**Range:** 1-9
**Required Field:** No

The Restraint field for Unit One has the following choices:

1. No Restraints Used
2. Lap Belt Used
3. Shoulder Belt Used
4. Lap & Shoulder Belt Used
5. Child Infant Seat Used
6. Child Convertible Seat Used
7. Child Built-In Seat Used
8. Child Booster Seat Used
9. Unknown

**Shortcut Key:** A z, A /

**Shortcut Action:** Pressing the shortcut key will enter a **4** for the **Restraint –Unit One** field, a **1** for **the Injury Class – Unit One** field and move the focus to **the State – Unit Two** field.

## Injury Class – Unit One:

**Type of Field:** Numeric
**Range:** 1-7
**Required Field:** No

The Injury Class field for Unit One has the following choices:

1. No Injury
2. Dead at Scene
3. Dead on Arrival
4. Died at Hospital
5. Disabling Injury
6. Non Disabling (Evident Injury)
7. Probable Injury

## Unit Two:

**Type of Field:** Drop Down List
**Range:** Four Choices
**Required Field:** No

The State of Washington Police Traffic Collision Report allows four choices for Unit Two. Once the Unit Two receives focus, a drop down list is displayed. The choices displayed in the list are:

Motor Vehicle
Pedal Cycle
Pedestrian
Property Owner

Select the appropriate choice as described in Section I.

> **Note:** Many times the police will code a parked vehicle as **a Property Owner** instead of a **Motor Vehicle**.

## State - Unit Two:

**Type of Field:** Drop Down List
**Range:** Sixty-Six Choices
**Required Field:** No

This drop down list contains the choices for the state issuing Unit Two's driver license. The choices for State-Unit Two are:

| | | |
|---|---|---|
| WA | KY | NV |
| OR | LA | NY |
| AK | MA | OH |
| AL | MB | OK |
| AR | MD | ON |
| AS | ME | PA |
| AZ | MH | PE |
| BC | MI | PQ |
| CA | MN | PR |
| CO | MO | PW |
| CT | MP | RI |
| DC | MS | SC |
| DE | MT | SD |
| FL | NB | SK |
| FM | NC | TN |
| GA | ND | TX |
| GU | NE | UT |
| Hi | NF | VI |
| IA | NH | WI |
| ID | NJ | WV |

| | | |
|---|---|---|
| IN | NM | WY |
| KS | NS | AB |

> **Note:** The majority of driver licenses you will encounter will be either Washington (WA) or Oregon (OR), therefore both these choices have been moved to the top of the drop down list.

**Shortcut Key:** A s (Alt ;), A f (Alt ‘)

**Shortcut Action:** Many of the drivers have a Washington driver’s license. If the Washingtonian is male, the shortcut keys A s will insert **WA** and **M** into the **State Unit Two**, and **Sex Unit Two** fields and moves the focus to the **D.O.B Unit Two (Date of Birth)** field.

If the Washingtonian is female, the shortcut keys A f will insert **WA** and **F** into the **State Unit Two**, and **Sex Unit Two** fields and moves the focus to the **D.O.B Unit Two (Date of Birth)** field.

## Date of Birth (DOB) – Unit Two

**Type of Field:** Date
**Length:** 10 (MM/DD/YYYY)
**Required Field:** No

The Date of Birth of Unit Two is a date field. The year must be entered in a four (4) digit format.

All four digits of the year are required.

The date field can be considered to have three (3) sub-fields linked together. The three sub-fields are:

- Month
- Day
- Year

Both the month and day sub-fields are two characters in length, whereas the year sub-field is four characters in length. When a sub-field is filled, the cursor will jump to the next sub-field. Therefore, if the month or day is less than ten (10), then entering a leading zero and **then** the number will cause the cursor automatically to jump to the next sub-field.

## Restraint – Unit Two

**Type of Field:** Numeric
**Range:** 1-9
**Required Field:** No

The Restraint field for Unit Two has the following choices:

1. No Restraints Used
2. Lap Belt Used
3. Shoulder Belt Used
4. Lap & Shoulder Belt Used
5. Child Infant Seat Used
6. Child Convertible Seat Used
7. Child Built-In Seat Used
8. Child Booster Seat Used
9. Unknown

**Shortcut Key:** A z, A /

**Shortcut Action:** Pressing the shortcut key will enter a **4** for the **Restraint –Unit Two** field, a **1** for **the Injury Class – Unit Two** field and move the focus to the **Total Vehicles** field.

## Injury Class – Unit Two

**Type of Field:** Numeric
**Range:** 1-7
**Required Field:** No

The Injury Class field for Unit Two has the following choices:

1. No Injury
2. Dead at Scene
3. Dead on Arrival
4. Died at Hospital
5. Disabling Injury
6. Non Disabling (Evident Injury)
7. Probable Injury

## Collision Type

**Type of Field:** Drop Down List
**Range:** Nine Choices
**Required Field:** Yes

After the directions (**To** and **From**) of Unit One and/or Unit Two are entered, the *Collision Record System* performs a calculation based on the

values of the **To** and **From** fields and the **Vehicle Action** fields. The **Collision Type** is the result of the calculations.

This calculation is fairly accurate. The types of collisions that are hard to determine are **Other** and, sometimes, **Sideswipe**. If the Collision Type is not the same as the coded Collision Type on the State of Washington Police Traffic Collision Report, the **To** and **From** fields and **Vehicle Actions** fields should be reviewed.

The **Type of Collision** are:

**Right Angle:** This is the most common type of collision. Typical directions are:

| **Vehicle One** | **Vehicle Two** |
|---|---|
| Northbound | Westbound or Eastbound |
| Southbound | Westbound or Eastbound |
| Eastbound | Northbound or Southbound |
| Westbound | Northbound or Southbound |

**Sideswipe:** This type of collision typically occurs when vehicles are traveling in the same direction and one of the vehicles changes lanes or merges into traffic.

**Rear End:** Both vehicles are traveling in the same direction and one vehicle crashes into the back of the other vehicle.

**Head On:** Each vehicle is traveling in the opposite direction.

**Fixed Object/Parked Vehicle:** This type of collision is the second most common. Typically, vehicle one either crashes into a parked vehicle or runs off the road and hits a fixed object, such as a tree or pole.

**Approach Turn:** Each vehicle is traveling on the same road in the opposite direction. Vehicle one turns left in front of vehicle two. This is an important type of collision to record because such records will help to determine whether left turn channelization/protection is required at that location.

**Bicycle/Pedestrian Involved:** One of the parties involved in the collision is either a pedestrian or a bicyclist.

**Backing:** Typically, this type of collision occurs when a vehicle backs into the roadway and hits a parked vehicle.

**Other:** This is the "catch all" type of collision. An example of an "Other" collision is one in which a vehicle looses control, runs off the road and ends up in a ditch. The vehicle has not struck any fixed objects and no other vehicles were involved.

## Total Vehicles

**Type of Field:** Numeric
**Range:** 1-9
**Required Field:** Yes

The **Total Vehicles** field is different from the **Total # of Units** field. The **Total # of Units** field counts pedestrians and fixed objects, such as trees, guardrails, and signs. The **Total Vehicles** should count only vehicles, including parked vehicles.

**Note:** Although the **Total # of Vehicles** field can contain a different value than the **Total Vehicles** field, the majority of the time the entries in the two fields are the same. When the **Total Vehicles** field receives focus, and is blank, the contents of the **Total # of Vehicles** field is automatically "poked" into the **Total Vehicles** field.

At the same time, the *Collision Record System* will look at the values in the fields **Injury Class** for both Unit One and Unit Two. If those fields are not blank, and have a value other than 1, the number of fatalities and the number of injured will be "poked" into the **# Fat** and **# Inj** fields, and the **PDO** field will be disabled.

If the **Injury Class** fields for both Unit One and Unit Two are either blank or have a value of 1, the **PDO** field will be "checked" and the **# Fat** and **# Inj** fields will be disabled.

## # Fat (Fatalities)

**Type of Field:** Numeric
**Range:** 1-9
**Required Field:** No

The total number of fatalities that occurred in this collision is entered in this field. If there are no fatalities, the field can be left blank.

## # Inj (Injuries)

**Type of Field:** Numeric
**Range:** 1-9
**Required Field:** No

The total number of injuries that occurred in this collision is entered in this field. If there are no injuries, the field can be left blank.

## PDO (Property Damage Only)

**Type of Field:** Check Box
**Required Field:** No.

Each collision is shown either as an injured person/fatality (now that's really injured!) or is shown as **p**roperty **d**amage **o**nly (PDO). If the collision is a PDO then that field should be "checked". Check Box fields are discussed in Section I.

> **Note:** After the data is entered in either of the **Injury Class** fields, Unit One or Unit Two, if either value is other that a 1 or a blank field, then the **PDO** field is disabled.

## H & R (Hit and Run)

**Type of Field:** Check Box
**Required Field:** No.

There are collisions in which one of the vehicles (units) flees the scene. These are hit and run collisions. The only way to determine if a collision is a hit and run collision is to read the narrative.

If a collision is a hit and run collision, then this field should be "checked." Check Box fields are discussed in Section I.

Once all the data is entered into the fields two choices are available:

**Store the Data and Enter Another Collision Record:** Clicking on the **Next Record** button (See **Moving Between Data Records** in **Section I**) will validate the data entered and display a new record.

**Store the Data and Return to Main Menu:** Clicking the **Ok** button will validate the data entered and return to the Main Menu.

The *Collision Record System* performs an extensive verification and error checking of the data entered so the most common errors are corrected prior to storing the data into the database table *CRS*.

The following is the error checking of the required fields that is done for each data record entered. (Fields are displayed in the order of the validation)

> **Note:** If an error is found, and your PC has speakers, a voice will state, "No, no, you have it all wrong!" Can you guess whose voice that is?

**Boxes #11 & #12 – Posted Speed:** If the speed entered in either box #11 or box #12 is not divisible by 5, then a message box is displayed indicating an incorrect speed has been entered.

If the collision was not at an intersection, and the posted speeds in box #11 and box #12 are not the same (not including a blank field), a message box is displayed indicating that the collision was not at an intersection therefore the posted speeds in both box #11 and box #12 should be the same. **Box #11** will receive focus.

**Date of Collision:** If the date entered is an invalid date, a message box will be displayed indicating an invalid date was entered and the **Date of Collision** field will receive focus.

**Time:** If the time of the collision entered is an invalid time, a message box will be displayed indicating an invalid time was entered and **Time** field will receive focus.

**Date of Birth – Unit One:** If the date entered is an invalid date, a message box will be displayed indicating an invalid date was entered and the **Date of Birth – Unit One** field will receive focus.

**Date of Birth – Unit Two:** If the date entered is an invalid date, a message box will be displayed indicating an invalid date was entered and the **Date of Birth – Unit Two** field will receive focus.

**Boxes #22 & #23 – Pedestrian Action:** If the data entered in these boxes are not in the range of 1 to 19, a message box is displayed indicating the data entered are not in the proper range. Focus is transferred to the field that is not in range.

**Boxes #25 & #26 – Pedacylist Action:** If the data entered in these boxes are not in the range of 43 to 49, a message box is displayed indicating the

data entered are not in the proper range. Focus is transferred to the field that is not in range.

**Boxes #27A & #27B-Unit One – Contributing Circumstances:** If the data entered in these boxes are not in the range of 1 to 36, a message box is displayed indicating the data entered are not in the proper range. Focus is transferred to the field that is not in range.

**Boxes #28A & #28B-Unit Two – Contributing Circumstances:** If the data entered in these boxes are not in the range of 1 to 36, a message box is displayed indicating the data entered are not in the proper range. Focus is transferred to the field that is not in range.

**Boxes #29A & #29B-Unit One – Vehicle Actions:** If the data entered in these boxes are not in the range of 1 to 22, a message box is displayed indicating the data entered are not in the proper range. Focus is transferred to the field that is not in range.

**Boxes #30A & #30B-Unit Two – Vehicle Actions:** If the data entered in these boxes are is not in the range of 1 to 22, a message box is displayed indicating the data entered is not in the proper range. Focus is transferred to the field that is not in range.

**Boxes #31 & #32 – Vehicle Condition:** If the data entered in these boxes are is not in the range of 1 to 16, a message box is displayed indicating the data entered is not in the proper range. Focus is transferred to the field that is not in range.

**Required Fields:** The required fields are checked to see if data has been entered. If the field is blank, then a message box is displayed indicating the specified field is a required field and then focus is transferred to that field.

The following is the list of the required fields:

Case #
Date of Collision
Time of Collision
On (Primary Traffic Way)
Total Vehicles
From – Unit One

**Date of Collision:** This verification performs two error checks. First the date entered is checked to see if it is a valid date. Secondly, the date that is internal to the PC is checked against the **Date of Collision**. If the PC's

internal date is older than the Date of Collision, a message box is displayed and the focus is transferred to the **Date of Collision** field.

Example: PC Date: 08/25/1999
Date of Collision: 08/27/1999

**Boxes #29A & #29B-Unit One – Vehicle Actions:** If either Box 29A or 29B is coded as a 1, Going Straight Ahead, and the other box is coded as a 3, 4, or 5, a turning vehicle, a message box is displayed stating that the unit can not be traveling straight and turning at the same time. Focus is transferred to Box 29A.

**Boxes #29A & #29B-Unit One – Vehicle Actions:** If either Box 29A or 29B is coded as a 1, Going Straight Ahead, and the **To** and **From** direction of travel for Unit One is coded for a turning movement, a message box is displayed stating that the Vehicle Action for Unit One is going straight but the direction of travel for Unit One is a turning movement. Focus is transferred to Box 29A or Box 29B.

**Boxes #29A & #29B-Unit One – Vehicle Actions:** If either Box 29A or 29B is coded as a 3, Making Right Turn , and the **To** and **From** direction of travel for Unit One is coded going straight, a message box is displayed stating that the Vehicle Action for Unit One is turning right but the direction of travel for Unit One is going straight. Focus is transferred to Box 29A or Box 29B.

**Boxes #29A & #29B-Unit One – Vehicle Actions:** If either Box 29A or 29B is coded as a 4, Making Left Turn, and the **To** and **From** direction of travel for Unit One is coded going straight, a message box is displayed stating that the Vehicle Action for Unit One is turning left but the direction of travel for Unit One is going straight. Focus is transferred to Box 29A or Box 29B.

**Boxes #29A & #29B-Unit One – Vehicle Actions:** If either Box 29A or 29B is coded as a 13, 14, 21, or 22, a parked vehicle, and the **To** and **From** direction of travel for Unit One is **NOT** coded as a 9 (stopped), a message box is displayed stating that the Vehicle Action for Unit One is a parked vehicle but the direction of travel for Unit One is not a 9 (stopped). Focus is transferred to Box 29A or Box 29B.

**Boxes #29A & #29B-Unit One – Vehicle Actions:** If either Box 29A or 29B is coded as a 15, backing, and the **To** and **From** direction of travel for Unit One **NOT** coded as a 0 (backing), a message box is displayed stating that the Vehicle Action for Unit One is backing but the direction of travel for Unit One is not a 0 (backing). Focus is transferred to Box 29A or Box 29B.

**Boxes #30A & #30B-Unit Two – Vehicle Actions:** If either Box 30A or 30B is coded as a 1, Going Straight Ahead, and the other box is coded as a 3, 4, or 5, a turning vehicle, a message box is displayed stating that the unit can not be traveling straight and turning at the same time. Focus is transferred to Box 30A.

**Boxes #30A & #30B-Unit Two – Vehicle Actions:** If either Box 30A or 30B is coded as a 1, Going Straight Ahead, and the **To** and **From** direction of travel for Unit Two is coded for a turning movement, a message box is displayed stating that the Vehicle Action for Unit Two is going straight but the direction of travel for Unit Two is a turning movement. Focus is transferred to Box 30A or Box 30B.

**Boxes #30A & #30B-Unit Two – Vehicle Actions:** If either Box 30A or 30B is coded as a 3, Making Right Turn, and the **To** and **From** direction of travel for Unit Two is coded going straight, a message box is displayed stating that the Vehicle Action for Unit Two is turning right but the direction of travel for Unit Two is going straight. Focus is transferred to Box 30A or Box 30B.

**Boxes #30A & #30B-Unit Two – Vehicle Actions:** If either Box 30A or 30B is coded as a 4, Making Left Turn, and the **To** and **From** direction of travel for Unit Two is coded going straight, a message box is displayed stating that the Vehicle Action for Unit Two is turning left but the direction of travel for Unit Two is going straight. Focus is transferred to Box 30A or Box 30B.

**Boxes #30A & #30B-Unit Two – Vehicle Actions:** If either Box 30A or 30B is coded as a 13, 14, 21, or 22, a parked vehicle, and the **To** and **From** direction of travel for Unit Two is **NOT** coded as a 9 (stopped), a message box is displayed stating that the Vehicle Action for Unit Two is a parked vehicle but the direction of travel for Unit Two is not a 9 (stopped). Focus is transferred to Box 30A or Box 30B.

**Boxes #30A & #30B-Unit Two – Vehicle Actions:** If either Box 30A or 30B is coded as a 15, backing, and the **To** and **From** direction of travel for Unit Two **NOT** coded as a 0 (backing), a message box is displayed stating that the Vehicle Action for Unit Two is backing but the direction of travel for Unit Two is not a 0 (backing). Focus is transferred to Box 30A or Box 30B.

**Pedestrian Related Verifications:** A pedestrian related collision has two data checks. They are:

**Box #23 - Pedestrian Action:** If this box contains data, then a message box is displayed indicating that Unit One can not be a pedestrian and focus is transferred to Box 23.

**Box #24 – Pedestrian Action:** If there is data in this box, and "Pedestrian" is not selected from the drop down list for Unit Two, a message box is displayed indicating the error and focus is transferred to the Unit Two drop down list box.

**Pedacyclist Related Verifications:** A pedacyclist related collision has two data checks. They are:

**Box #25 – Pedacyclist Action:** If there is data in this box, and "Pedal Cycle" is not selected from the drop down list for Unit One, a message box is displayed indicating the error and focus is transferred to the Unit One drop down list box.

**Box #26 – Pedacyclist Action:** If there is data in this box, and "Pedal Cycle" is not selected from the drop down list for Unit Two, a message box is displayed indicating the error and focus is transferred to the Unit Two drop down list box.

**Vehicle Two at Fault:** As stated in several places earlier, in order to successfully use the *Collision Record System*, the Vehicle at Fault should be Unit One.

**Note:** If the collision involved a pedestrian, and the pedestrian is at fault, the pedestrian cannot be coded a Unit One.

If the **Box #27A** or **#27B** (Contributing Circumstances, Unit One) is coded as **18** and the collision is not pedestrian involved, then a **Yes/No** message box is displayed asking if Vehicle One and Vehicle Two should be swapped. If **Yes** is chosen, then the data for Unit One and Unit Two following fields will be swapped:

- Contributing Circumstances
- Vehicle Actions
- Vehicle Condition
- To and From (T, F)
- Sobriety
- Pedestrian/Pedalcyclist Was Using
- Pedestrian Action
- Pedalcyclist Action
- Unit One/Unit Two
- State of Unit One/Unit Two

- Sex of Unit One/Unit Two
- Date of Birth of Unit One/Unit Two
- Restraint of Unit One/Unit Two
- Injury Class of Unit One/Unit Two

> **Note:** As the above list illustrates, there are numerous fields in which the data needs to be swapped. It is more accurate to let the *Collision Record System* swap the data, than to manually change the data during the coding process.

**Intersection Collision:** If the collision occurred at an intersection, the **Primary Traffic Way** and the **Cross St**reet are compared to see if the Primary Traffic Way is alphabetically lower than the Cross Street.

If the Cross Street is alphabetically lower than the Primary Traffic Way, then the two streets are swapped and the Posted Speeds, Box #11 and Box #12, are swapped.

> **Note:** When you search a database it is important that intersections have been are stored identically. Storing the collisions alphabetically ensures that all the collisions related to the intersection are found.

**Unit Two:** For this error check to be tripped, the following conditions must be met:

- Total Vehicles = 1.
- Box 30A and Box 30B are blank.
- Type of Collision = Fixed Object/Parked Vehicle or Other
- Unit Two is NOT Property Owner

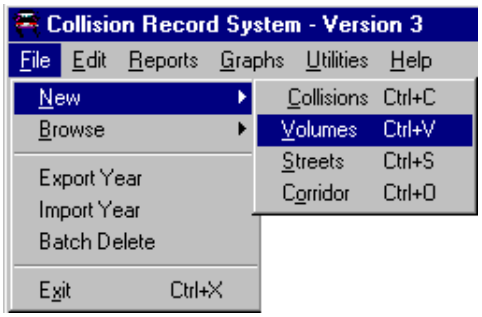
If all the above conditions are met, then a **Yes/No** message box is displayed asking if Unit Two should be "Property Owner." Choosing YES will change Unit Two to "Property Owner."

Each time an error is found and the error message is displayed, the focus will be transferred to the appropriate field to be edited. After editing the pertinent data, click on either the Next Record or Ok button. The above process will be repeated. If another error is found, the same process is repeated.

Once the data has passed the extensive error checking, a **Yes/No** message box will be displayed asking if the data should be stored to the database (database table, *CRS*). Selecting **Yes** will store the data, and a message box will be displayed indicating the data has been added to the database.

> **Note:** The above error checking should indicate the importance of proper coding of each State of Washington Police Traffic Collision Report. Be sure to read the Appendix – Coding Collision Report.

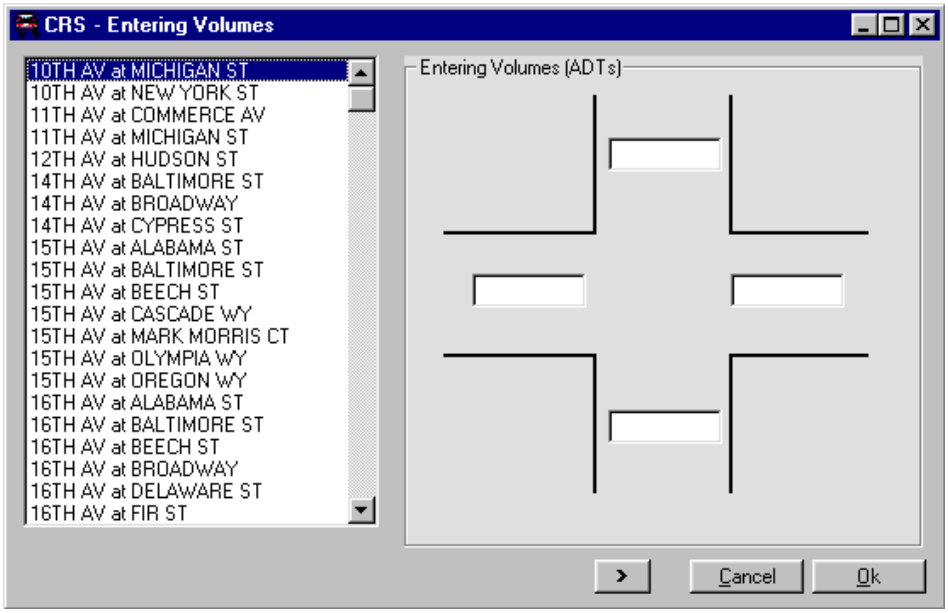
## File – New-Volumes:




One of the features of the *Collision Record System* is that collision rates are calculated at intersections. These collision rates are part of several reports.

In order to calculate collision rates, entering volumes for the intersection must be entered.

**New Volumes** allows the entering traffic volumes to be entered and stored in the database table, ***Volumes***. Once **New Volumes** has been selected the **CRS – Entering Volumes** form will be displayed.



New volumes can be entered for intersections that meet the following criteria:

- There are collisions already stored in the database table *CRS*.
- Volumes have not been previously entered.

The intersections that meet the above criteria are listed in a text box located along the left side of the form.

To enter volumes for an intersection, highlight the intersection name and **double click** that intersection name. The cursor will "jump" to the text box located on the north leg of the intersection diagram.

> **Note:** To traverse between the four (4) volume text boxes, either click the desired text box or press either T , Y, or Z.

The intersection diagram has a text box in each leg of the intersection. The **entering** ADT volumes are to be entered in each appropriate leg.

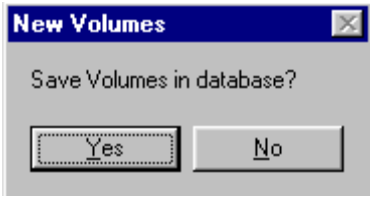
> **Note:** If the intersection is a "Tee" intersection, leave the text box for the missing leg blank.

Once all the entering volumes have been entered, two choices are available:

**Store the Data and Enter Volumes for Another Intersection:** Clicking on the **Next Record** button (See **Moving Between Data Records** in **Section I**) will store the data entered, delete the intersection name from the displayed list and the focus will be transferred to the top of the list box displaying the intersections with no volumes.

**Store the Data and Return to Main Menu:** Clicking the **Ok** button will validate the data entered and return to the **Main Menu**.

After either of the two command buttons is clicked, the following **Yes/No** message box will be displayed.



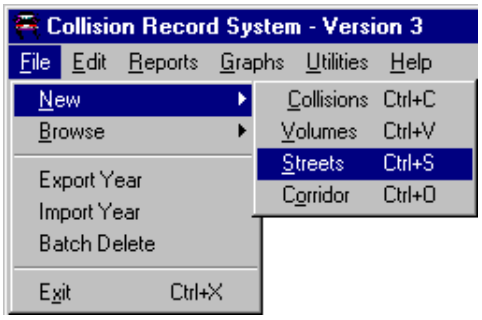
Clicking "Yes" will save the data to the database table ***Volumes***. After the data is saved into the database table, the following message box will be displayed.


After clicking "Ok", that intersection name will be deleted from the list box and focus will be transferred to the top of the list box displaying the intersections with no associated volumes.

Clicking **"No"** will erase the values of the four volume text boxes and transfer focus to the top of the list box displaying the intersections with no associated volumes.

> **Note:** Once a year's worth of collisions has been entered, the number of intersections that do not have volumes entered seems insurmountable.
>
> The following is the method the author uses to determine which intersections should have associated volumes. One of the *Collision Record System's* reports is the **High Collision Location** report. Running this report will produce a list of the intersections with the highest number of collisions. The report can also sort those collisions by collision rates.
>
> Enter volumes for those intersections that are on the High Collision Location list.

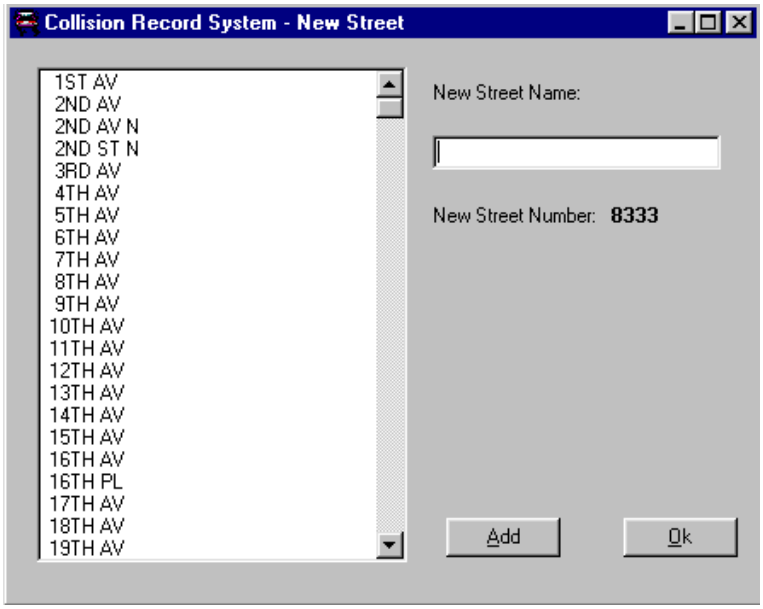
## File – New-Streets:




Each collision occurs on a street and is either at an intersection or a distance from a cross street. The *Collision Record System's* database, **UTEC**, contains a database table where all the streets are located. The **File-New Streets** option allows new streets to be entered into the ***StreetList*** database table.

> **Note:** Before the **first** traffic collision can be entered, at least **one** street name has to be entered.

Once the **File-New Streets** has been selected, **the Collision Record System – New Street** form is displayed. The following is an example of that form.




Each street has its own unique number. The *Collision Record System* uses this number internally.

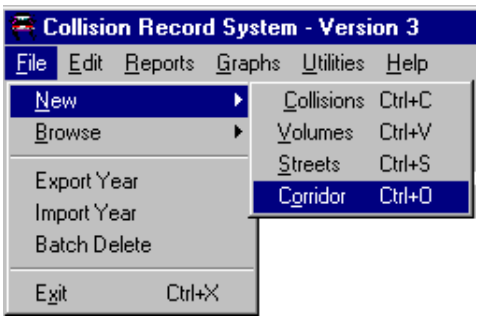
The **New Street** form will automatically search the database table *StreetList* to determine the next available unique number. This number is displayed on the **New Street** form.

Type in the new street name in the text box and click **Add.** Once **Add** has been clicked, the *StreetList* database table will be searched for a duplicate street name. If the street name entered is unique, the street and its corresponding street number will be added to the list.

Clicking **Ok** will return to the **Main Menu**.

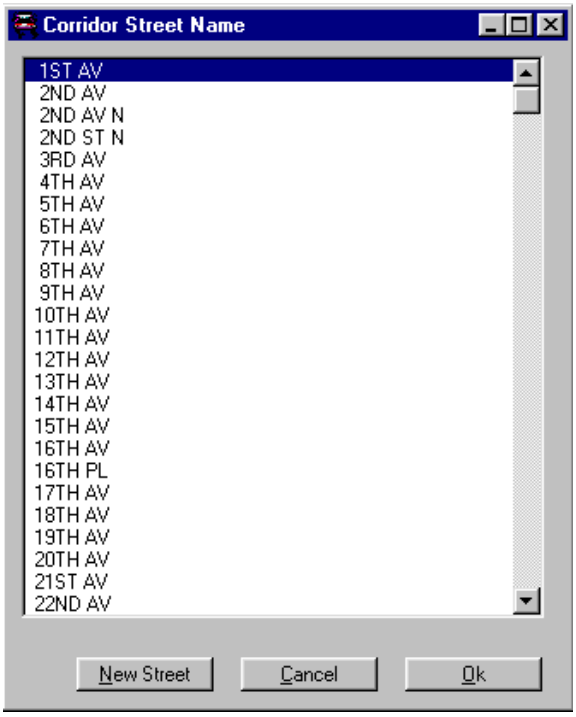
> **Note:** New streets can be added when entering traffic collisions.

# File – New-Corridor:




The *Collision Record System* can produce a report for all the collision along a corridor. Prior to running the report, the corridor must be defined. The File-New Corridor's option allows corridors to be defined.

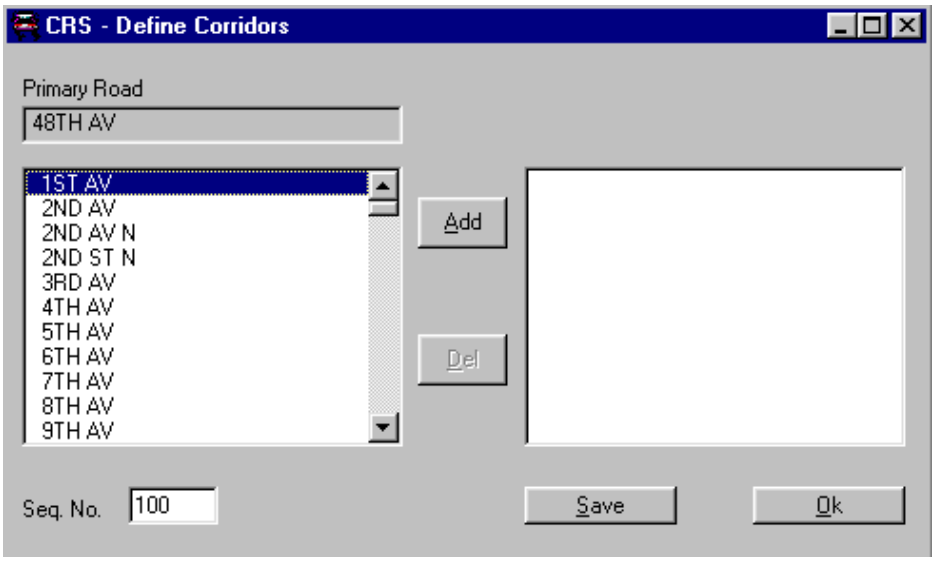
Once the File-New Corridor option has been selected, the **Corridor Street Name** form is displayed. The following is an example of the **Corridor Street Name** form.




The streets that are stored in the database table ***StreetList*** are displayed in a list box. Highlight the street name that is the corridor and click **Ok**.

> **Note:** Once the street name is highlighted, **double clicking** the street name is the same as clicking **Ok**.

Once the corridor's street name has been selected, the **CRS – Define Corridors** form will be displayed. The following is an example of that form.




The name of the corridor is displayed under the heading, **Primary Road**. All the street names that are stored in the database table, ***StreetList***, are displayed in a list box located under the corridor street name.

All the streets that intersect the corridor must be entered in the following order:

- **North/South Corridor**: If the corridor traverses north and south, the intersecting streets must be entered with the most southerly intersecting street first, ending with the most northerly intersecting street.

- **East/West Corridor:** If the corridor traverses east and west, the intersecting streets must be entered with the most westerly intersecting street first, ending with the most easterly intersecting street.

Each intersecting street **must** have a **unique** sequence number. The smallest sequence number is the most southerly/westerly-intersecting street. The largest sequence number is the most northerly/easterly-intersecting street.

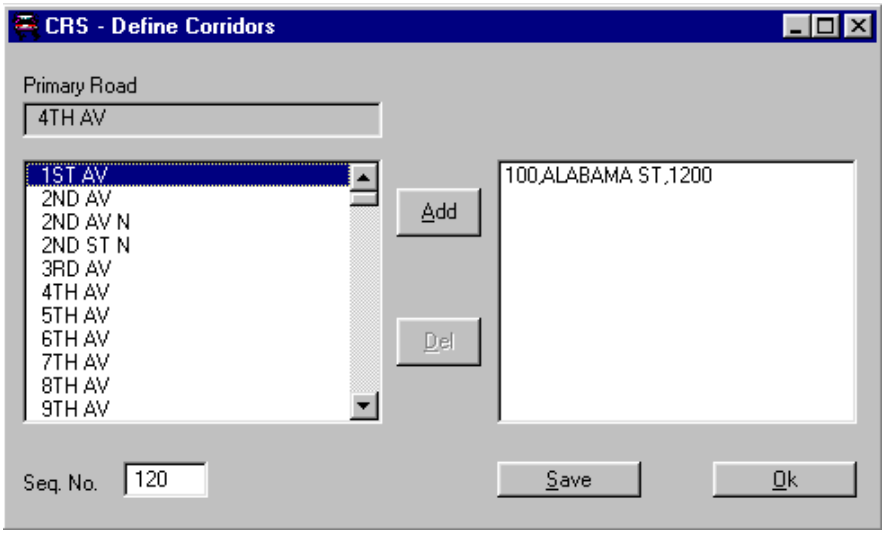
The *Collision Record System* will automatically generate the sequence number, starting with the number one hundred (100). After each intersecting street is added, the sequence number is incremented by twenty (20).

**Note:** There may be intersecting streets that are mistakenly omitted during this process or a new street is constructed in the city, and needs to be added at a later date.

Providing a numerical gap between intersecting streets allows for the additional intersecting streets to be added at a later date.

To add an intersecting street to the corridor, highlight the intersecting street and click **Add**. The sequence number, the street name, and its corresponding number (the corresponding number was assigned when the street name was added to the database table *StreetList*) are displayed in the list box on the right hand side of the form.

The following is an example the intersecting street, Alabama St. being added to the corridor 4th Ave.

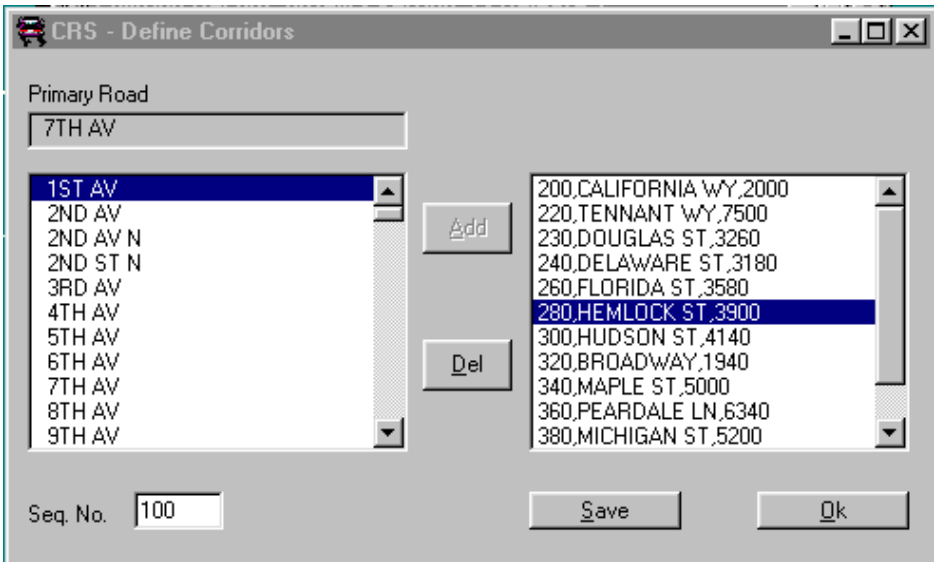



The **sequence number** is **100**, the intersecting street name is **ALABAMA ST.**, and **Alabama's street number is 1200**. The next available sequence number will be automatically incremented by 20.

Repeat the procedure of selecting the intersecting streets, from either south to north, or west to east, and adding them to the corridor.

If during the process of adding intersections to the corridor, an incorrect intersecting street is added to the corridor, that intersecting street can be deleted. To delete an intersecting street from a corridor, highlight the street, and click the **Del** button. The intersecting street will be removed from the list.

In the form shown below, the street **Hemlock St**. is to be removed from the list of intersecting streets. **Hemlock St**. is highlighted, and the **Del** button is depressed. **Hemlock St**. will be removed from the list of intersecting streets.



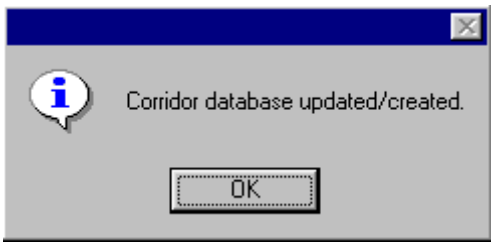

**Note:** If part way through the process you realize that an intersecting street has been omitted, simply add the omitted street and change the sequence number that the *Collision Record System* supplies to a number that lies between the sequence numbers of the two intersecting streets between which the omitted street lies geographically.

It does not matter if the streets are listed in the proper order in the text box located in the right hand side of the form. However, it is important that the sequence number of the intersecting streets goes from the lowest (the southerly/westerly street) to the highest (the most northerly/easterly intersecting street).

If you manually change the sequence number to insert an intersecting street, do not forget to manually change the sequence number to be at least 20 greater than the highest sequence number of the most northerly/easterly intersecting street displayed in the text box on the right hand side of the form.

Some corridors may have many intersecting streets. The **Save** command button will save the intersecting streets that have been selected and allow additional intersecting streets to be added.

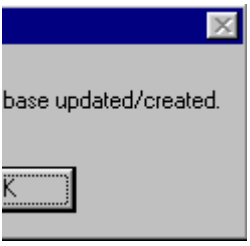
Once the **Save** button has been clicked, the following message box will appear.



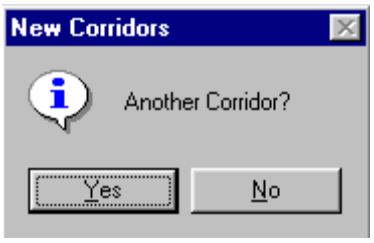

After clicking **Ok**, the message box will disappear and additional intersecting streets can be added/deleted.

After all the intersections have been added click **Ok**. Once **Ok** has been clicked, the following **Yes/No** message box will be displayed.


Selecting **Yes** will save the corridor and the intersecting streets to the database table, **Corridor**. Once the data has been saved the following message box will be displayed.




The following **Yes/No** message box asks if another corridor is to have its intersecting streets assigned.

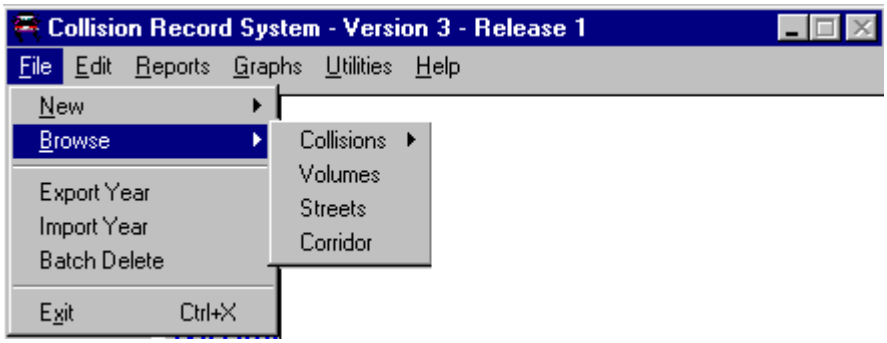



Selecting **Yes**, will return to the **Corridor Street Name** form where the process described above is repeated. Clicking **No** will return to the **Main Menu**.

# File - Browse:

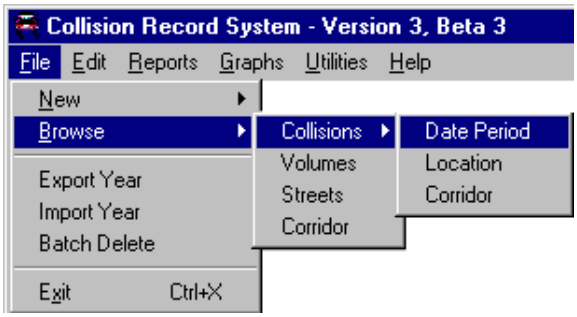
The **File-Browse** option's purpose is to allow viewing of the existing data without the opportunity to for modifying the data.

Once the **Browse** option is chosen, its submenu is displayed. The following are the **File-Browse's** options.




As the menu structure illustrates, there are four (4) options that can be selected. The following is a detailed description for each of the File-Browse's options.

## File – Browse - Collisions:



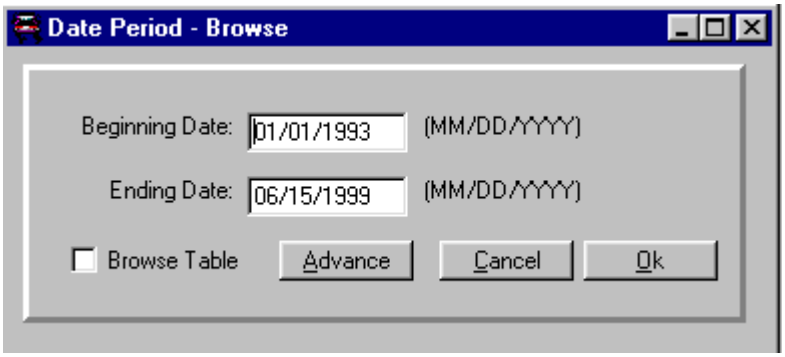

The **File – Browse - Collisions** option provides the means for collision records to be viewed (not modified). The collision records can be viewed in two different formats, by the displaying the collision records in data entry form or by displaying pre-defined selected fields in a browse table.

> **Note:** The two view formats for the browse mode are described in detail following the description of the three options for selecting records to be browsed.

Once the **File – Browse – Collisions** option has been chosen, three other sub-options are displayed. They are:

**Date Period**
**Location**
**Corridor**

Date Period: When the **Date Period** option is chosen, the following form is displayed.



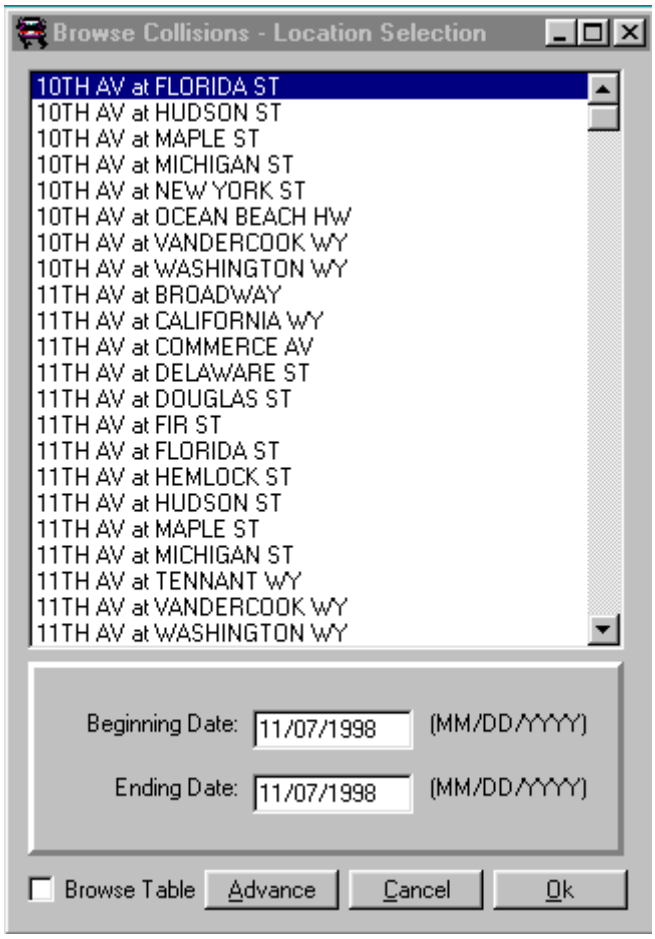

The date displayed in the **Beginning Date** field is the date of the **earliest** collision record stored in the database. The date displayed in the **Ending Date** field is the date of the **most recent** collision record store in the database.

The desired date period can be chosen as described in *"Specifying a Date Period"* which can be found in **Section I**.

Clicking the **Advance** button will allow additional filtering of the data that is found within the specified date period. Entering a query should be done as described in *"Advance Querying"* located in **Section I**.

After the date period is specified, and any advance querying has been defined, the next choice is what format to use to display the collision records. To display the collision records in a tabular format, click the **Browse Table** check box field. If the **Browse Table** check box field is unchecked, then the matching records are displayed in the same form that is used to enter new collision records.

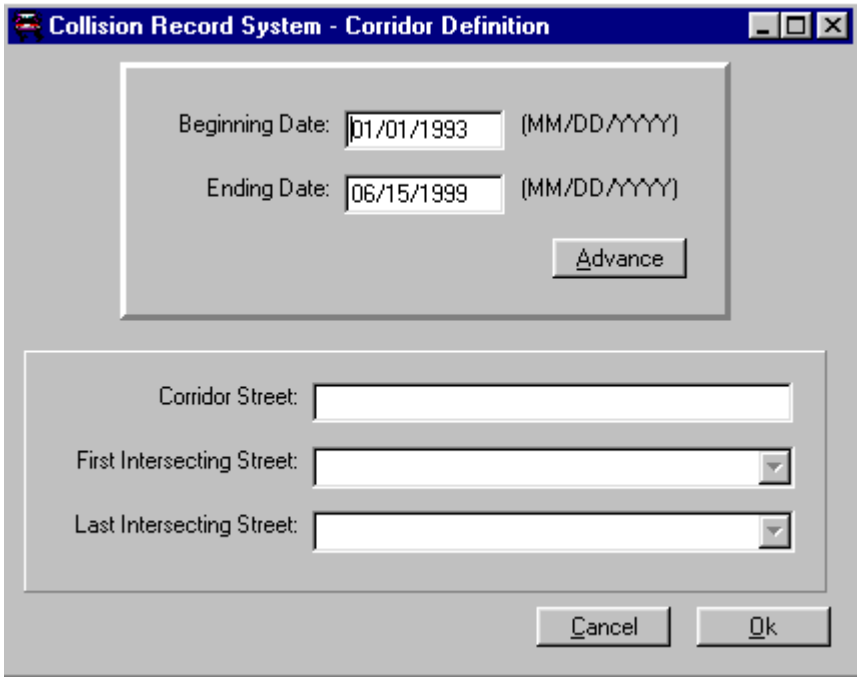
Location: This option should be chosen when the collisions to be browsed are at a specific location. When the **Location** option is chosen, the following form is displayed.




Choosing the location and the date period are described in the Section I, "Selecting an Intersection".

After the location and the date period are selected, and any advance querying has been defined, the next choice is what format to use to display the collision records. To display the collision records in a tabular format, click the **Browse Table** check box field. If the **Browse Table** check box field is unchecked, then the matching records are displayed in the same form that is used to enter new collision records.

Corridor: This option should be chosen if the collisions to be browsed are located along a street. When the **Corridor** option is chosen, the following form is displayed.



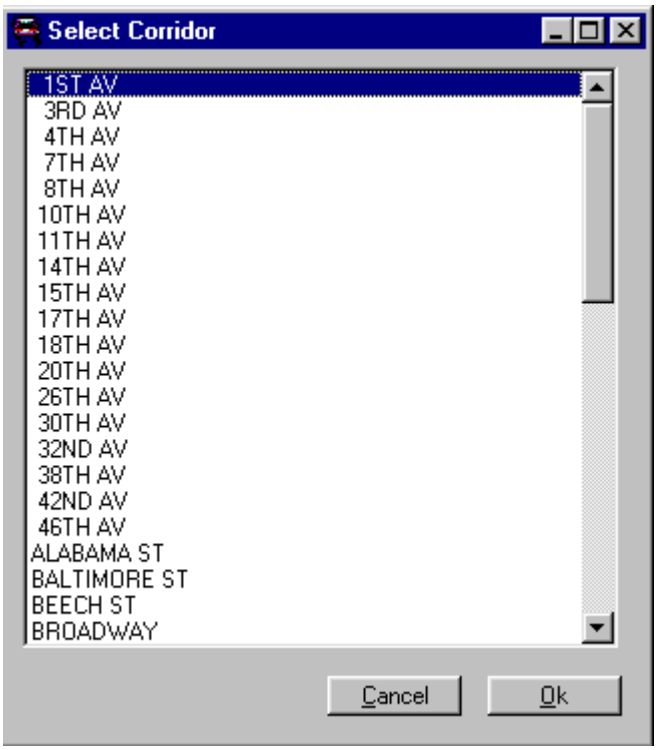

There are four (4) steps in successfully completing this form. They are:

Selecting the Date Period:
The date displayed in the **Beginning Date** field is the date of the **earliest** collision record stored in the database. The date displayed in the **Ending Date** field is the date of the **most recent** collision record stored in the database.

The desired date period can be chosen as described in "*Specifying a Date Period"* which can be found in **Section I**.

Clicking the **Advance** button will allow additional filtering of the data that is found within the specified date period. Entering a query should be done as described in *"Advance Querying"* located in **Section I**.

Selecting the Corridor Street:
Once the date period has been selected, clicking the **Corridor** text box will display the **Select Corridor** form. The following is an example of the **Select Corridor** form.




Only those streets which have had their intersecting streets defined under the **File-New-Corridor** option are listed in the list box.

Highlight the street the collisions on which are to be browsed and click **Ok**. Clicking Cancel will close this form, cancel the **File-Browse-Collision-Corridor** option and return to the **Main Menu**.

Selecting the First Intersecting Street:
Once the street has been selected, all the intersecting streets will be loaded into the **First Intersecting Street's** drop down list box. The most southerly/westerly street will be displayed. Select the first intersecting street. Selecting an item from a drop down list box is described in **Section I**.

Selecting the Last Intersecting Street:
After the **First Intersecting Street** has been selected, all the intersecting streets that are to the north/east of the First Intersecting Street will be loaded into the **Last Intersecting Street's** drop down list box.

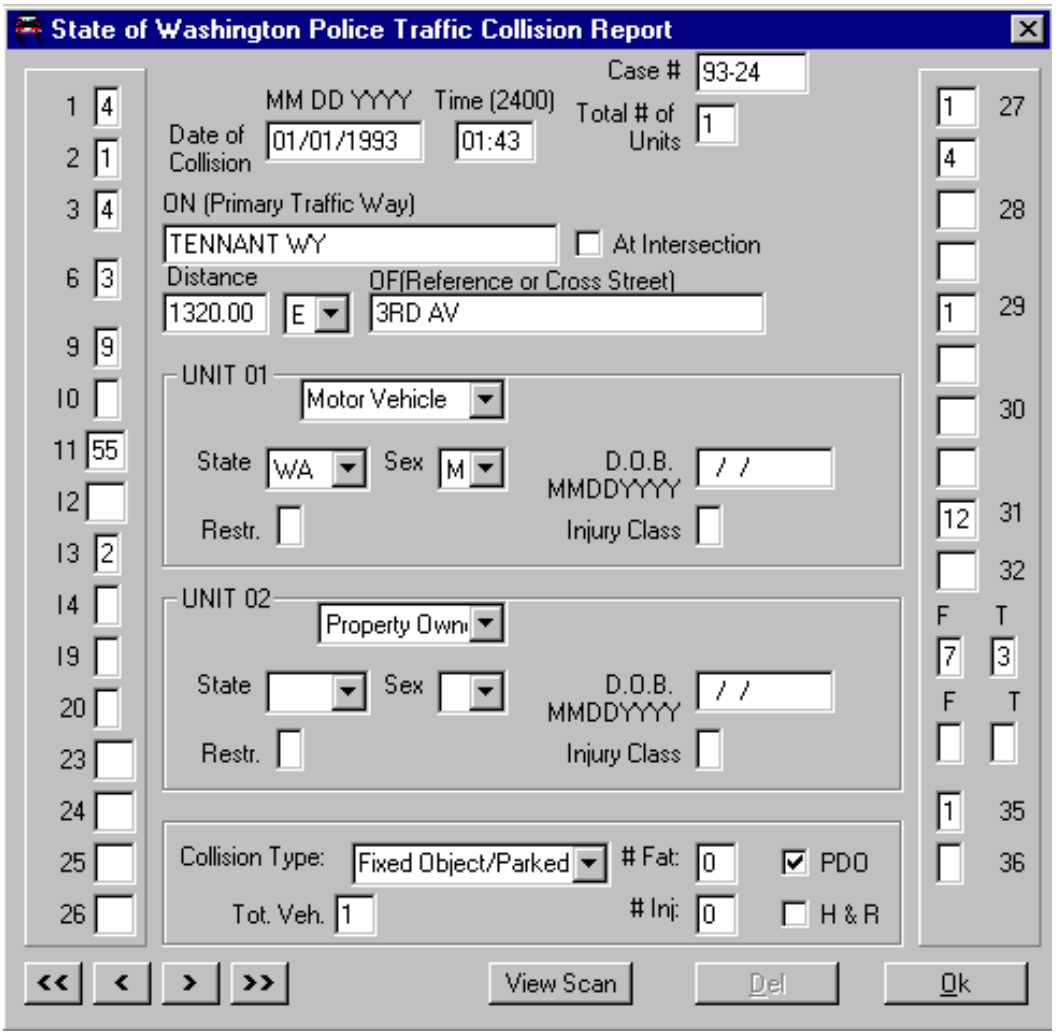
Select the last intersecting street. Selecting an item from a drop down list box is described in **Section I**.

Once the four items have been selected, click **Ok**. The matching collision records will be displayed in a tabular form.

After the criteria have been selected via one of the three browse options, the matching collisions will be displayed in one of two formats. They are:

State of Washington Police Traffic Collision Report Form:

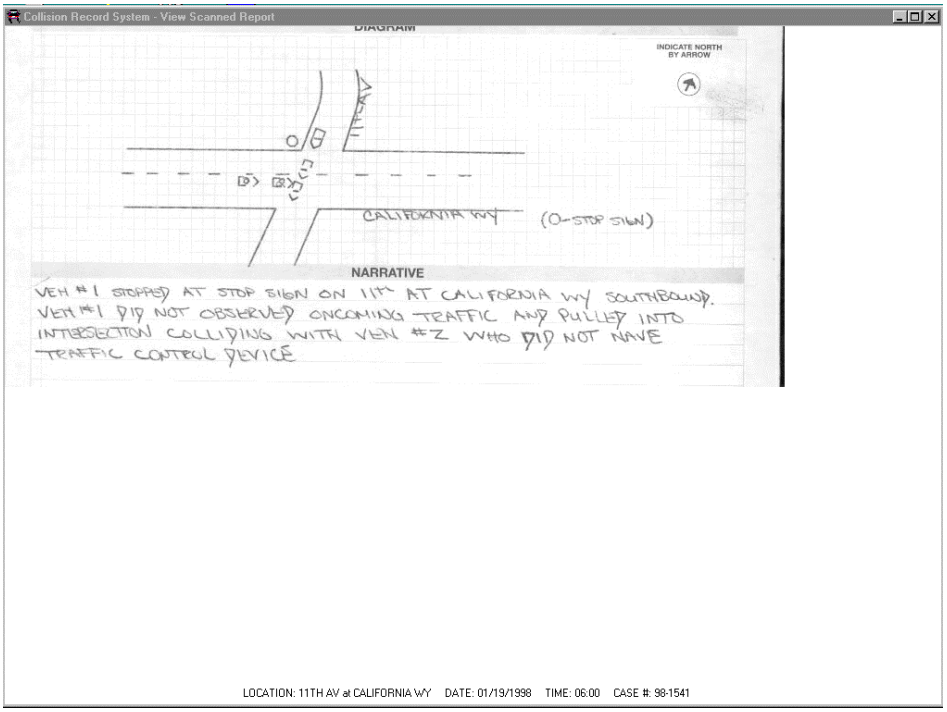
This form is the same form that is used when manually entering traffic collision records. The following is an example of the State of **Washington Police Traffic Collision Report Form**.




Data on the form can be modified, however, the modified data will not be saved to the database table *CRS*.

To move between the collision records use the four (4) data control command buttons located in the lower left hand corner of the form. See "*Moving Between Data Records"* in **Section I** of this manual for a detailed explanation of how to move between the collision records.

Depressing the **View Scan** command button will look for the associated graphic file for the collision record currently being displayed. If the graphic file exits, it will be displayed. The following is an example of a scanned graphic file.

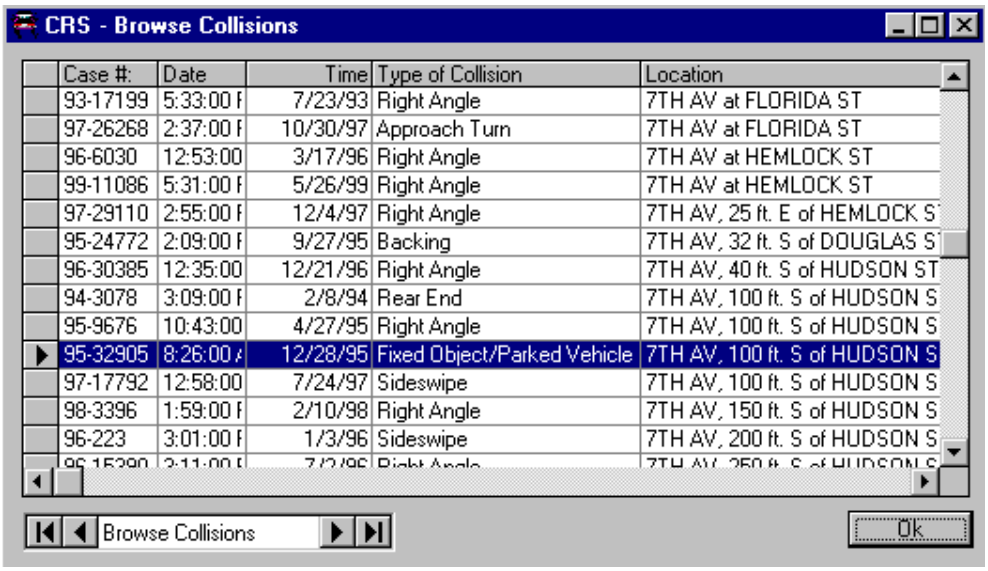



See "*Viewing Scanned Images*" found in **Section I** of this manual for a detailed explanation of the options available when viewing a scanned image.

Once you are finished browsing, click the **Ok** button. The program will return you to the **Main Menu**.

Collision Browse Table:

The **Collision Browse Table** displays the matching collision records in a tabular format. The following is an example of a **Collision Browse Table**.



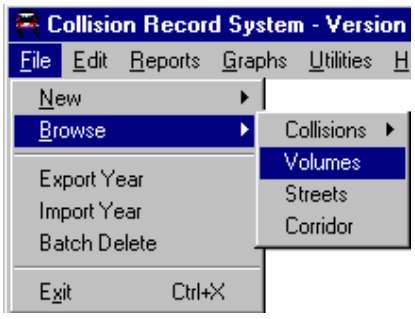

The collision records can be browsed as described in the section, *"Browsing Data Using a Browse Table"* found in Section I.

While browsing records, the scanned image for a particular collision record can be browsed. To view a scanned image, move the highlight to the desired record. (In the above browse table, the highlight is on the record with the Case #: 95-32905).

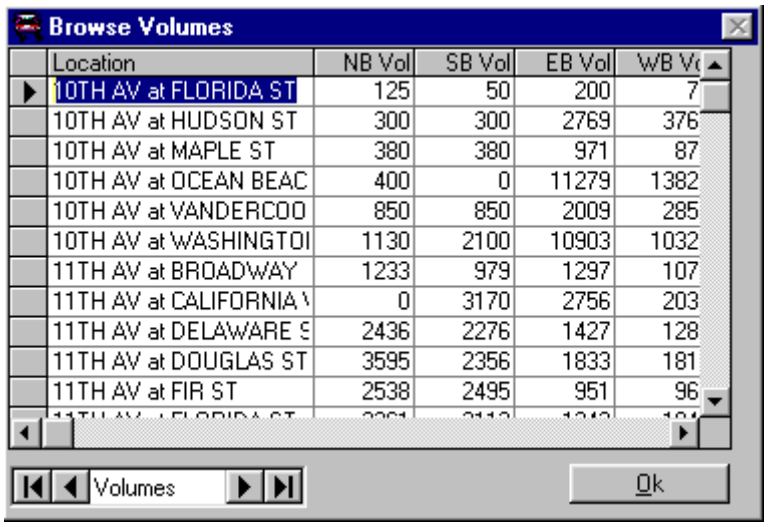
Once the collision record has been highlighted, click the **right mouse button**. If a scanned image exists for that particular record, the scanned image will be displayed.

Click **Ok** when finished browsing the selected collision records and the program will return to the **Main Menu**.

## File – Browse - Volumes:




The **File – Browse - Volumes** option allows volumes that are stored in the database table *Volumes* to be browsed. Once the File-Browse-Volumes option has been selected, the **Browse Volumes** table is displayed. The following is an example of the **Browse Volumes** table.




**Note:** The database table *Volumes* is sorted by the **Location** field prior to being displayed in the **Browse Volumes** browse table.

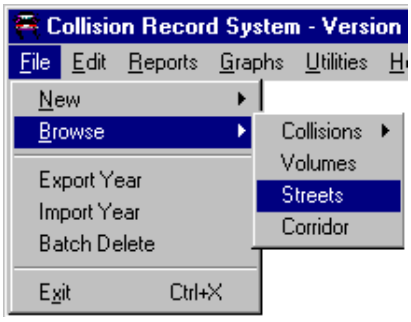
The Browse Volumes table has five (5) columns. They are:

| Column Abbreviation | Column Full Name |
|---|---|
| Location | Location |
| NB Vol | Entering Volume, Northbound |
| SB Vol | Entering Volume, Southbound |
| EB Vol | Entering Volume, Eastbound |
| WB Vol | Entering Volume, Westbound |

The volume records can be browsed as described in *"Browsing Data Using a Browse Table,"* found in **Section I**.

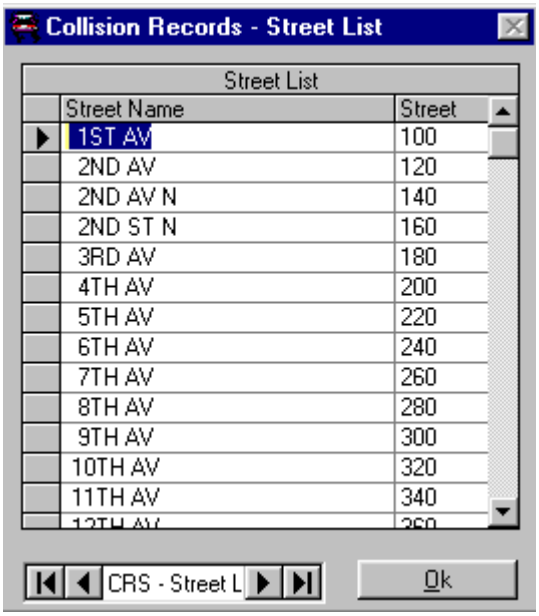
Once all the volumes have been browsed, click **Ok** and the *Collision Record System* will return to the **Main Menu**.

## File – Browse - Streets:




The **File – Browse - Streets** option allows street names that are stored in the database table, *StreetList* to be browsed.

Once the File-Browse-Streets option has been selected, the **Collision Records – Street List** table is displayed. The following is an example of the **Collision Records – Street List** table.

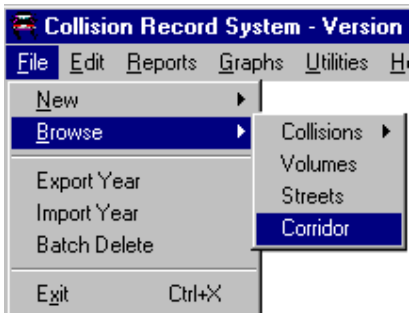



**Note:** The database table *StreetList* is sorted by the **Street Name** field prior to being displayed in the **Collision Records – Street List** browse table.

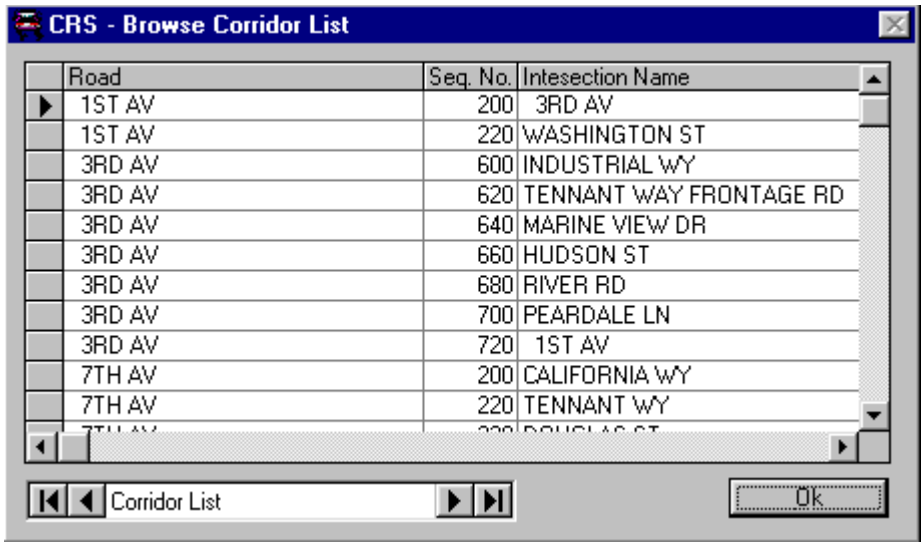
The database table *StreetList* has only two fields; therefore, the **Collision Records – Street List** browse table contains only two columns which are; **Street Name**, and **Street Number**.

Once all the street names have been browsed, click **Ok** and the *Collision Record System* will return to the **Main Menu**.

## File – Browse - Corridor:




The **File – Browse - Corridor** option allows for browsing the corridors and their associated intersection street names stored in the database table *Corridors*. Once the File-Browse-Corridor option has been selected the **CRS – Browse Corridor List** table is displayed. The following is an example of the **CRS – Browse Corridor List** table.




**Note:** The database table *Corridor* is double sorted prior to being displayed in the **CRS-Browse Corridor List**. The primary sort is by the **Road** and the secondary sort is by the **Sequence Number** field.

The following are the column titles and their definitions.

Road: This column displays the road name of the corridor.

Seq. No: This column displays the sequence number of the intersecting streets. For each road, the sequence numbers are listed in from the smallest to largest.

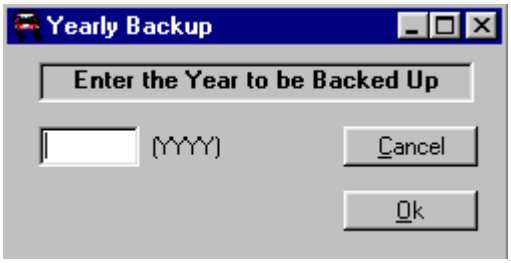
Intersection Name: This column displays the intersecting street name that is associated with the sequence number in the second column. The intersecting streets should be listed from South ➔ North, and West ➔ East.

# File – Export Year:


The **File-Export Year** option's purpose is to archive one calendar year's of collision records.

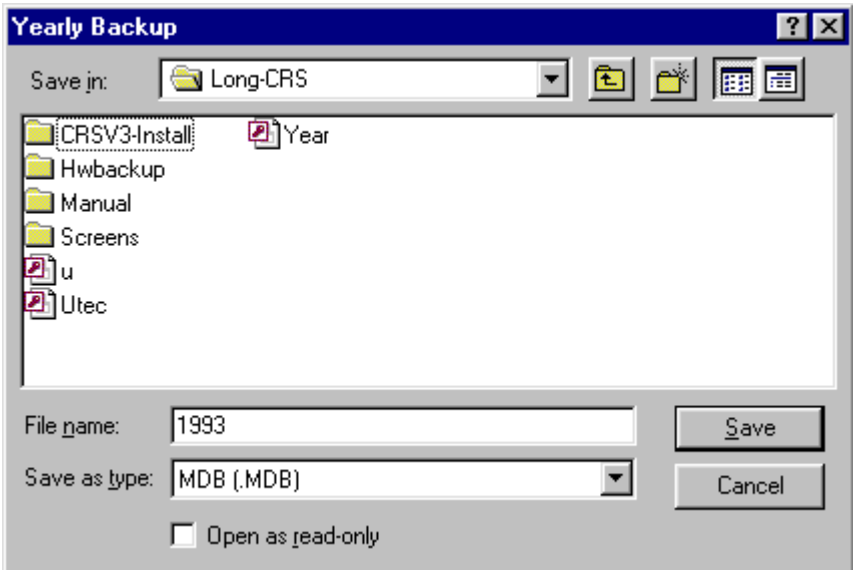
**Note:** A part of the *Collision Record System's* initialization process is the creating of a backup copy of the entire database **UTEC.MDB**. The backup is cleverly named, **UTEC.BAK**, and is located in the same folder as the *Collision Record System* program files.

Once the **File-Export Year** menu option has been selected, the following form will be displayed.




The year to be backed up is to be entered in the numeric field (YYYY). The year must be in a four-digit format (i.e. 1998 not 98). To abandon this function, click **Cancel**. This will return to the **Main Menu**.

Clicking **Ok** will display the following form.




This form is the common **Save As** form that is used in most Windows applications. The location and the name of the file is selected/entered in this form.

**Note:** In designing the *Collision Record System*, the intent of the **Save As** form was to select the location of the file. The default name of the file is the year of the collision records to be archived.

Once the name and location have been selected/entered, click **Ok**. The **Main Menu** will reappear and the area that contains the title of the program will display the number of collision records being archived into the backup file.

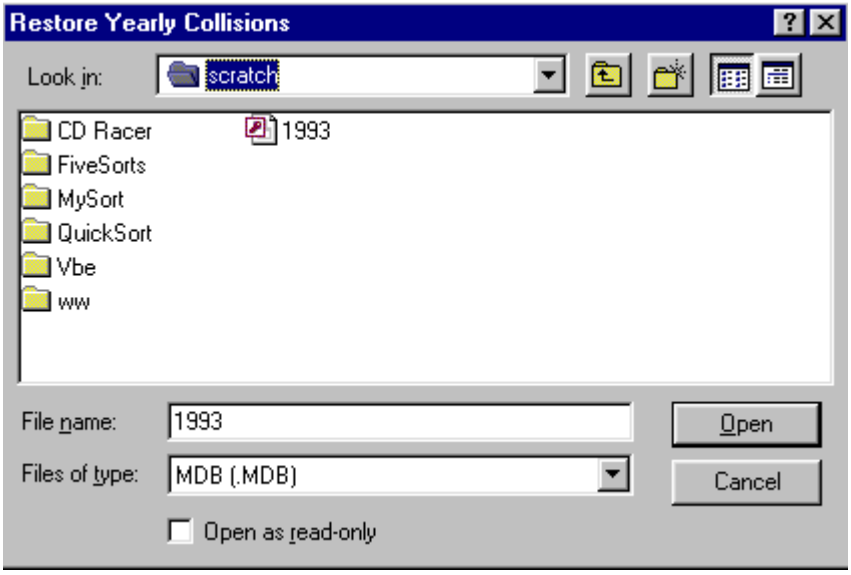
Upon creating the backup file containing the collision records for the specified year, the system will redisplayed the program title and will refresh the **Main Menu**.

# File – Import Year:


The **File-Import** option's purpose is to import collision records into the database table *CRS* from a Microsoft Access database file that was created with the **File-Export Year** option.

> **Note:** Most traffic studies use three (3) year's worth of collision data. There may be occasions when a study requires data that has been archived using the **File-Export Year** option. This menu option will import those records into the database table *CRS*.

Once the **File-Import** option has been chosen, the standard **Windows Open File** form will be displayed. The following is an example of the Open File form.




Clicking **Cancel** will return to the **Main Menu**. Select the database file to be imported and click **Ok**.

> **Note:** The program looks for **any** Microsoft Access database. (File extension .MDB). It is the user's responsibility to choose a file that was created using the **File-Export Year** menu option.

Once the database file has been selected, and Ok clicked, the *Collision Record System* will perform the following tasks.

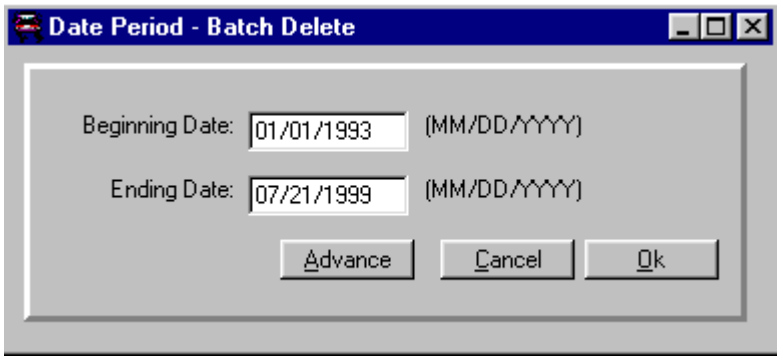
- Open the database file.
- Read each collision record one at a time.
- Determine whether the collision record to be imported is a duplicate collision record.
- If the collision record is not a duplicate, import the record into the database table *CRS*.
- Indicate that record has been imported by displaying the number of records imported in the area of the **Main Menu** where the *Collision Record System* is displayed.
- Continue the above process until all the collision records have been read from the database file.

After the above have been completed, the program title is redisplayed and the next menu option can be selected.

## File – Batch Delete:


The **File-Batch Delete** option's purpose is to delete a number of collision records from the database table *CRS*. This option is typically used after the **File-Export Year** menu option has been executed. Once the **File-Batch Delete** menu option has been selected, the following **Yes/No** message box will be displayed.

Selecting **No** will return to the **Main Menu**. Clicking **Yes** will display the following form.



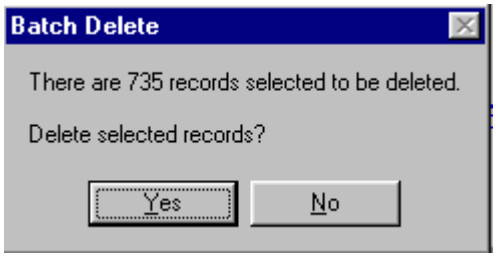

The date displayed in the **Beginning Date** field is the date of the **earliest** collision record stored in the database. The date displayed in the **Ending Date** field is the date of the **most recent** collision record store in the database.

The desired date period can be chosen as described in "*Specifying a Date Period"* in **Section I**.

Clicking the **Advance** button will allow additional filtering of the data that is found within the specified date period. Entering a query should be done as described in *"Advance Querying"* located in **Section I**.

After the date period has been specified and any advance querying has been defined, click Ok. The *Collision Record System* will scan the database table *CRS* for any collision records that lie within the specified date period that also matches any advanced query definition.

If matching records are found, a **Yes/No** message box will be displayed indicating the number of matching records that will be deleted from the database table ***CRS***. The following is an example of the **Yes/No** message box.




Clicking **No** will return to the **Main Menu**. Selecting **Yes** will delete the matching records from the database table ***CRS*** and then return to the **Main Menu**.

# File – Exit:


Selecting this menu option is the only way to exit the *Collision Record System*. Most other Windows applications allow the program to end when you click on the "X" that is located in the upper left hand corner of the **Main Menu** form. That option has been eliminated in this program.

In earlier versions of the *Collision Record System*, the "X" was enabled. However, when users exited the program by clicking on the "X", the housekeeping chores necessary to properly close the Microsoft Access database functions were not being completed. The only way to successfully accomplish the housecleaning tasks was to disable the "X" and force the program to end when the **File-Exit** menu option is selected.

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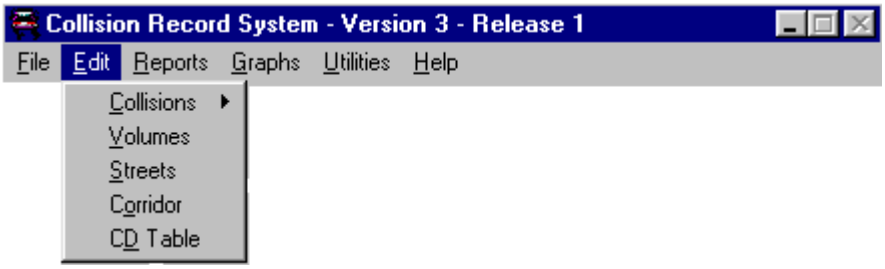
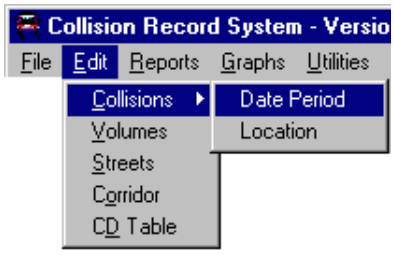
# Edit

The **Edit** menu option allows existing data records to be modified. When the **Edit** menu option is chosen by either clicking on **Edit**, or pressing A e, the **Edit** options are displayed. The following are the **Edit** options.




## Edit - Collisions:

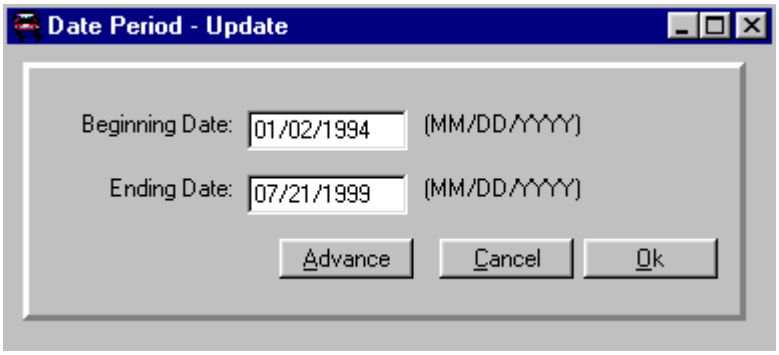



The **Edit-Collisions** option's purpose is to edit existing collision records that are stored in the database table *CRS*.

Once the **File – Browse – Collisions** option has been chosen, two other sub-options are displayed. They are:

**Date Period**
**Location**

Date Period: When the **Date Period** option is chosen, the following form is displayed.



The date displayed in the **Beginning Date** field is the date of the **earliest** collision record stored in the database. The date displayed in the **Ending Date** field is the date of the **most recent** collision record store in the database.

The desired date period can be chosen as described in "*Specifying a Date Period"* in **Section I**.

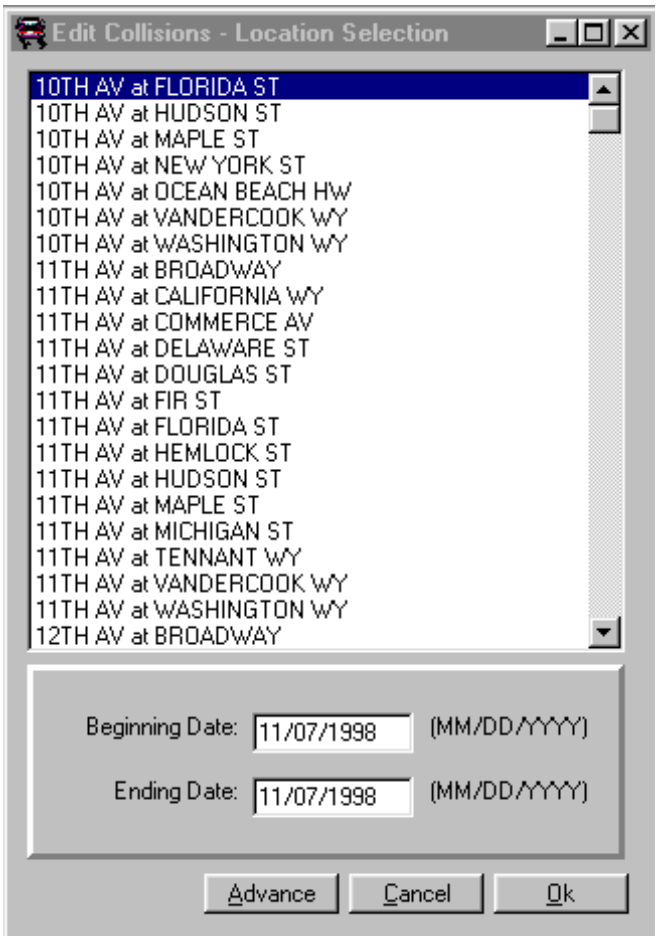
Clicking the **Advance** button will allow additional filtering of the data that is found within the specified date period. Entering a query should be done as described in *"Advance Querying"* in **Section I**.

Clicking the **Cancel** button will return to the **Main Menu**.

After the date period has been specified and any advance querying has been defined, click **Ok** to begin the process of scanning the database table *CRS* for matching files. If matching records are found, a message box is displayed indicating the number of matching records. The following is an example of the message box.


Once **Ok** has been clicked, the **State of Washington Police Traffic Collision Report Form** will be displayed and the collision records can be edited. This process will be discussed after the Edit-Collision-Location menu option is described.

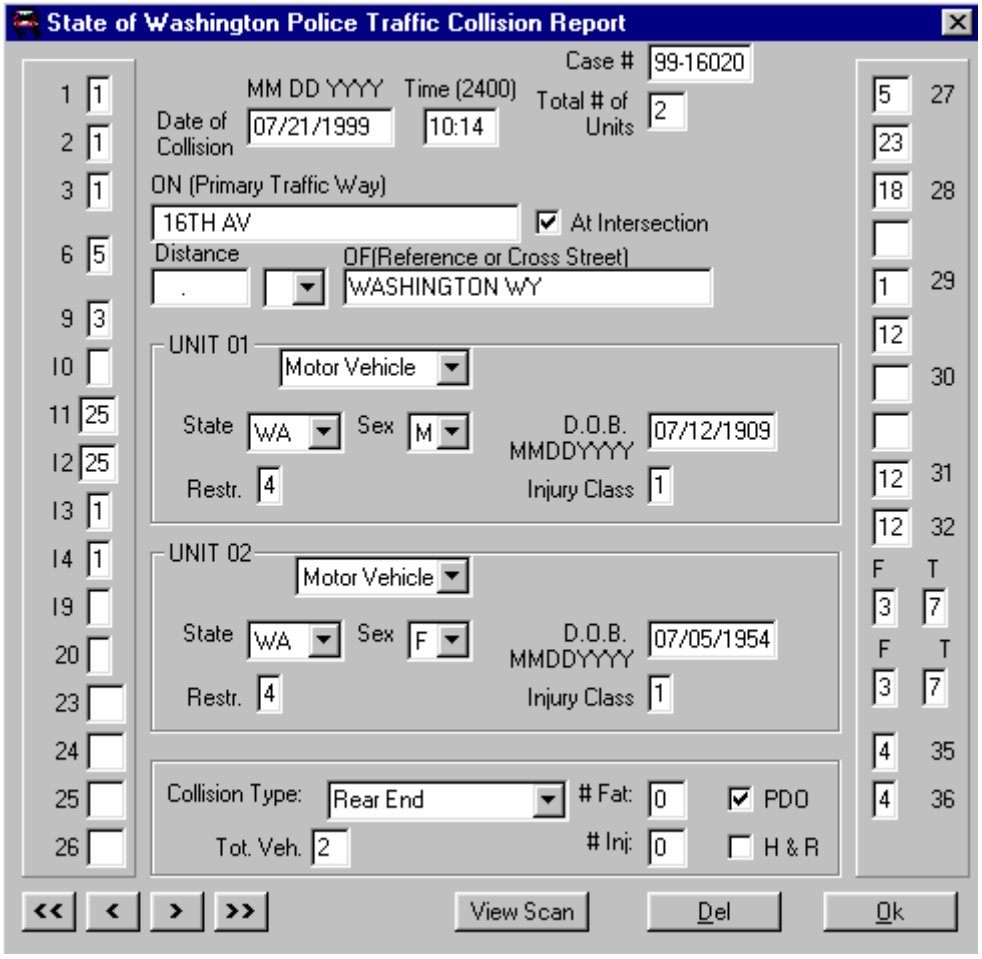
Location: This option should be chosen when the collisions to be edited are at a specific location. When the **Location** option is chosen, the following form is displayed.




Choosing the location and the date period as described in the **Section I**, *"Selecting an Intersection."*

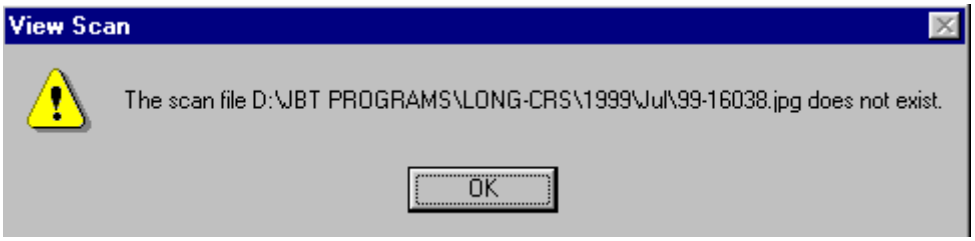
After the location and the date period have been selected, and any advance querying has been defined, click **Ok** to begin the process of scanning the database table *CRS* for matching files. If matching records are found a message box will be displayed indicating the number of matching records. The following is an example of the message box.

Once **Ok** has been clicked, the **State of Washington Police Traffic Collision Report Form** will be displayed and the collision records can be edited. The following is an example of the **State of Washington Police Traffic Collision Report Form.**



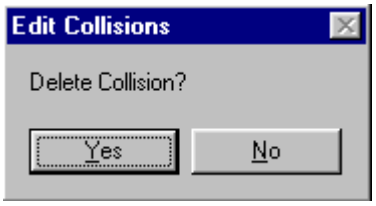

All the shortcut keys that can be used when entering new collisions are available to you when you are editing collision records.

Clicking **View Scan** will display the scanned image for the current collision record. If the scanned image does not exist, or is stored in the improper location, a message box is displayed. The following is an example of such a message box.



The information displayed in the message box is important if the image for the current collision record **has** been scanned. The message displays the proper file name and the location where the scanned image must reside in order to be displayed. (See the section in the **Appendix**, *"Scanning Images"* for further detail.).

If the current collision record is to be deleted, click the **Del** button. The following **Yes/No** message box will appear.




Clicking Yes will delete the current collision record. Therefore, you need to be doubly sure the record should to be deleted.

Moving between data records can be accomplished by using the four (4) data control command buttons located in the lower left hand corner of the form. See "*Moving Between Data Records"* **in Section I** of this manual for a detailed explanation on how to move between the collision records.

If the current collision record has been modified, and any of the four (4) data control buttons have been clicked, the following **Yes/No** message box will be displayed.

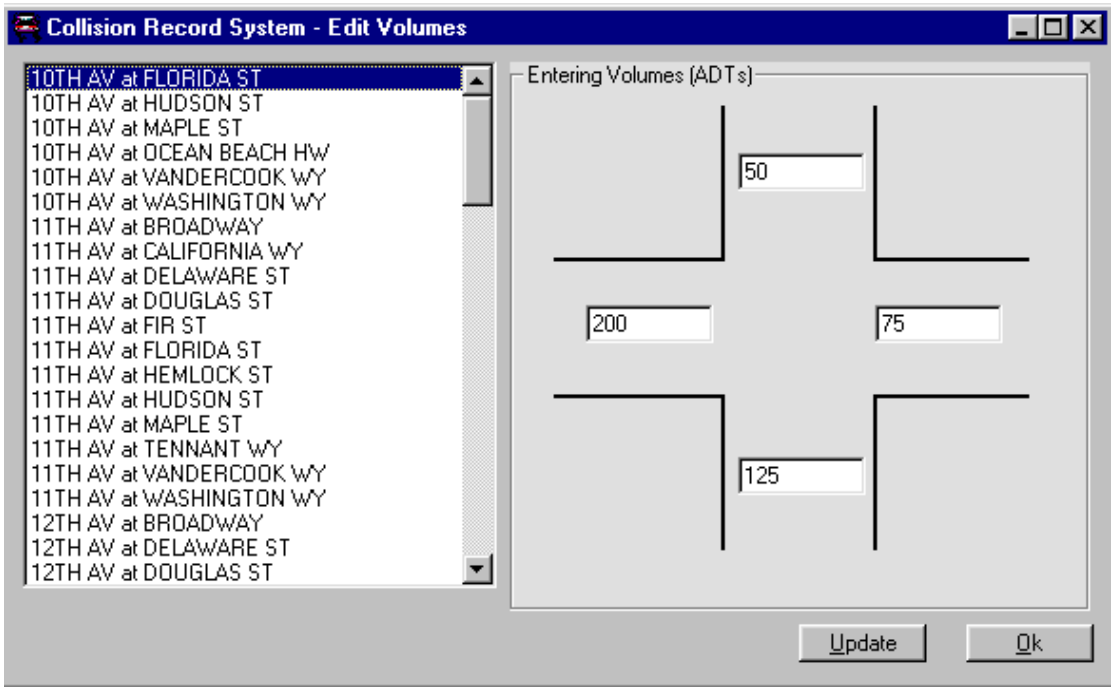

Clicking Yes will update the current collision record.

Once all the desired collision records have been edited, click **Ok**, and the **Main Menu** will be displayed.

# Edit - Volumes:

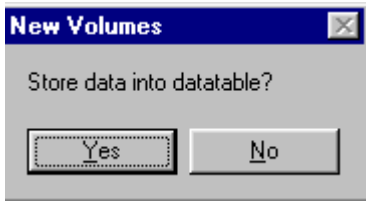

The **Edit-Volumes** option's purpose is to edit existing volume records that are stored in the database table *Volumes*.

Once the **Edit-Volumes** option has been chosen, the **Collision Record System-Edit Volumes** form will be displayed. The following is an example of the **Collision Record System-Edit Volumes** form.




Only those intersections that have had volumes entered using the **File-New-Volumes** menu option are listed in the list box. As each intersection is highlighted, that intersection's volume is displayed to the right.

Volume(s) can be modified by clicking to the desired numeric field and editing the value. Once all the volumes have been edited for the highlighted intersection click **Update**. Once **Update** has been clicked, the following **Yes/No** message box will be displayed.

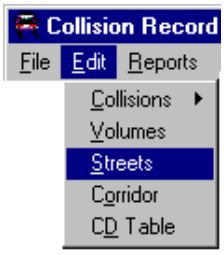


To save the modified data, click **Yes**.

After all the volumes have been modified, click **Ok**. Once **Ok** has been clicked, the same **Yes/No** message box will be displayed, since the *Collision Record System* cannot be sure the present volumes that are displayed have not been modified.

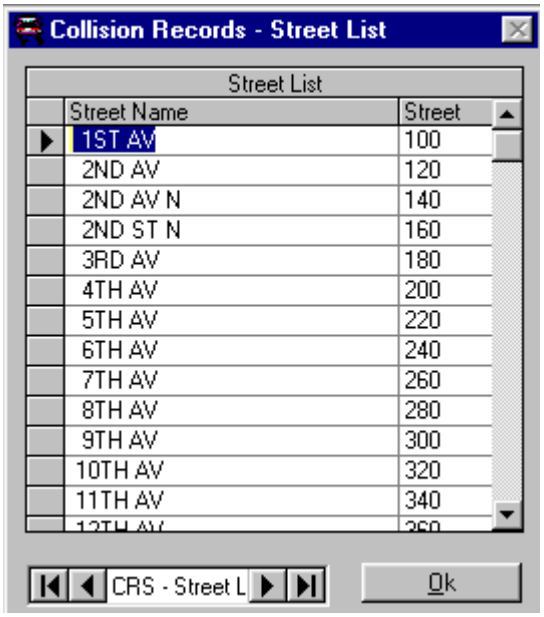
If the volumes **have not** been modified click No. The **Main Menu** will be displayed.

# Edit - Streets:



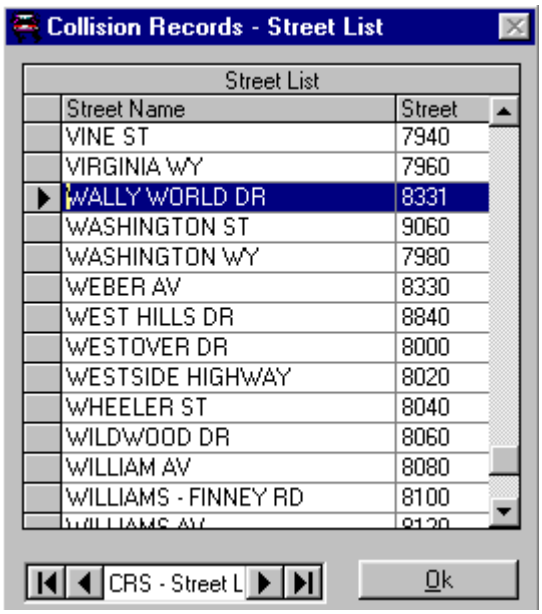

The **Edit-Streets** option's purpose is to edit existing street name records that are stored in the database table ***StreetList***.

Once the **Edit-Streets** option has been chosen, the **Collision Records–Street List** form will be displayed. The following is an example of the **Collision Records-Street List** form.

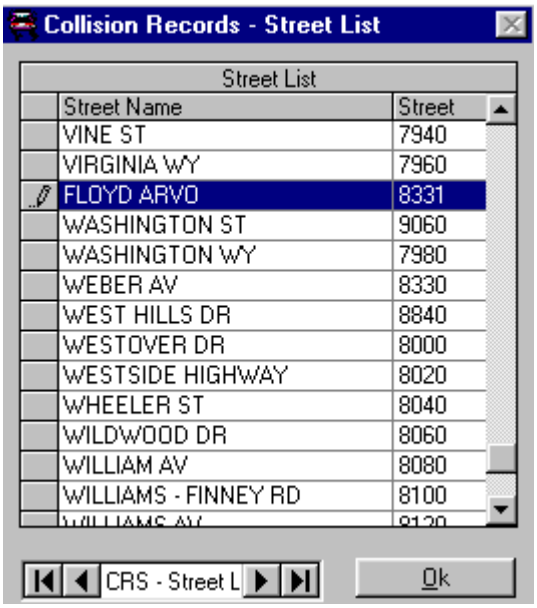



The database table, ***StreetList***, has only two fields; therefore, the **Collision Records – Street List** browse table contains only two columns; **Street Name**, and **Street Number**.

To edit a street name move the pointer, designated by the ►symbol in the leftmost column, to the desired record. The entire record will be highlighted. The following shows the ► symbol moved to the street name, WALLY WORLD DR.

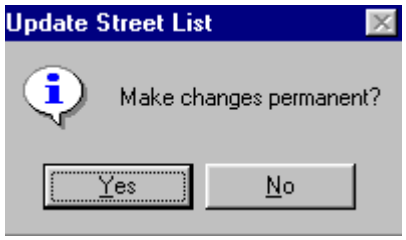



The street name can be edited. Type in the edited street name. The following form shows the street name WALLY WORLD DR edited to FLOYD ARVO.




The ► symbol has been replaced by a pencil symbol that indicates the current data record has been modified.

To store the modified data record, simply click on another record. Once another record has been clicked, the following message box will be displayed.




Clicking **No** will cancel the changes and display the following screen.


> **Note:** The message box shown above is titled "DBGrid". DBGrid is a tool that comes with Visual Basic and has no specific meaning to the *Collision Record System*.

Selecting **Yes** will store the modified record into the ***StreetList*** database table and the following message box will be displayed.


Click **Ok** and continue with the process described above.

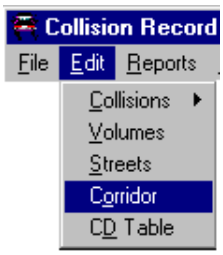
Once all the street names have been modified, click **Ok** that is located in the lower right hand of the **Collision Records – Street List** form. The program will return to the **Main Menu**.

**WARNING! WARNING! WARNING!**

Prior to changing any street names or a street name's associated number, understand the ramifications.

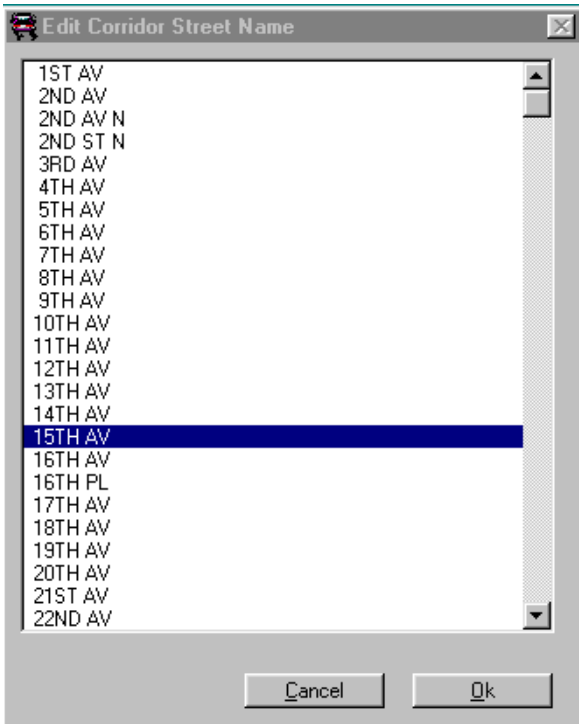
Editing a street name **will not** change that street name in the collision records. Those have to be changed individually using the **File-Edit-Collision** menu option. If a street number is changed, then the **Utilities-Recalculate Collision ID** menu option should be run.

# Edit - Corridor:

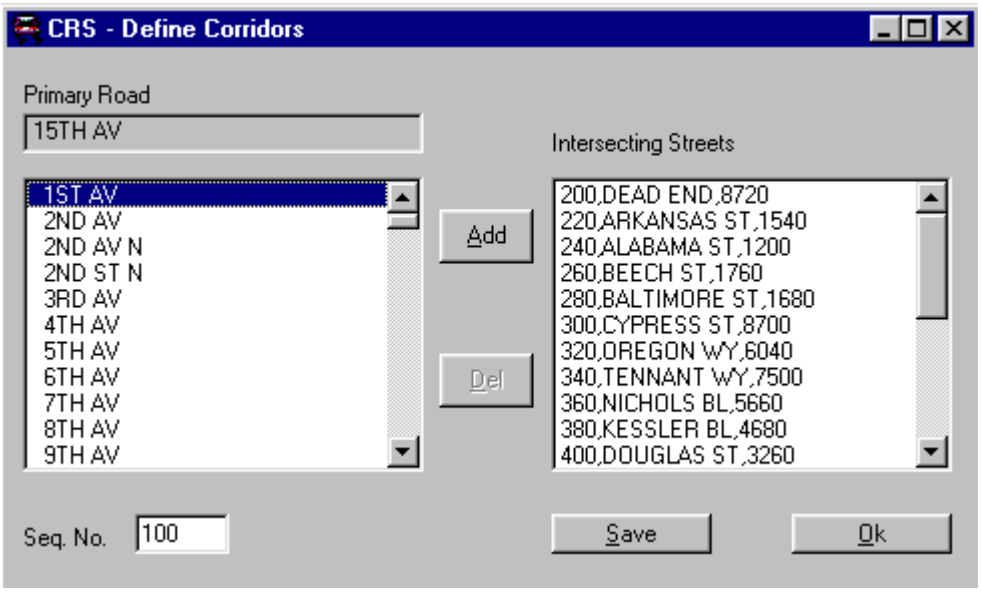



The **Edit-Corridor** option's purpose is to edit the intersecting streets that comprises a corridor and are stored in the database table **Corridors**. Also, this option is used to add intersecting streets to an already defined corridor.

Once the **Edit-Corridor** option has been selected the **Corridor Street Name** form will be displayed. The following is an example of the **Corridor Street Name** form.



Highlight the corridor street, the intersecting streets of which are to be edited and click **Ok**. Once **Ok** has been clicked, the **CRS – Edit Corridors** form will be displayed. The following is an example of the **CRS – Edit Corridors** form that shows the intersecting streets for the 15th Avenue corridor.




To delete an intersecting street, highlight the intersecting street. Once an intersecting street has been highlighted, the **Del** button will be enabled. Clicking the **Del** button will delete the highlighted intersecting street.

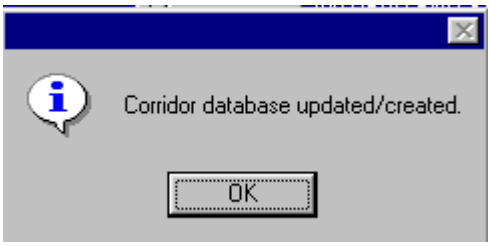
To insert an intersecting street, highlight the street name in the text box located on the left side if the form, verify that the Sequence Number is correct, and click the **Add** button. The new intersecting street will be displayed in the Intersecting Streets text box.

Example: **4th Avenue** is to be added as an intersecting street and is located between **Oregon Way** and **Tennant Way**. To accomplish this, do the following:

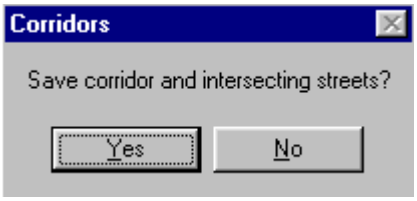
1. Highlight **4TH AV** located in the text box located on the left hand side of the form.
2. Change the **Sequence Number**. The Sequence Number needs to be between 320 (Oregon Way) and 340. (Tennant Way). Enter **330** for the sequence number.
3. Click the **Add** button

The Intersecting Streets text box will be updated and 4TH AV will be displayed between Oregon Way and Tennant Way.

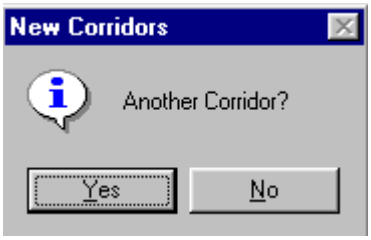
When all the intersecting streets have been modified, click the **Save** button. After the **Save** button has been clicked, the following message box will be displayed.




To exit the **Edit-Corridor** menu option, or to edit another corridor click **Ok**. The following **Yes/No** message box will be displayed.

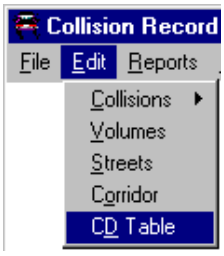



Click the appropriate button and then the following **Yes/No** message box is displayed.




Choosing **Yes** will return to the **Corridor Street Name** form and the above process can be repeated. Selecting **No** will return to the **Main Menu**.

# Edit – CD Table:

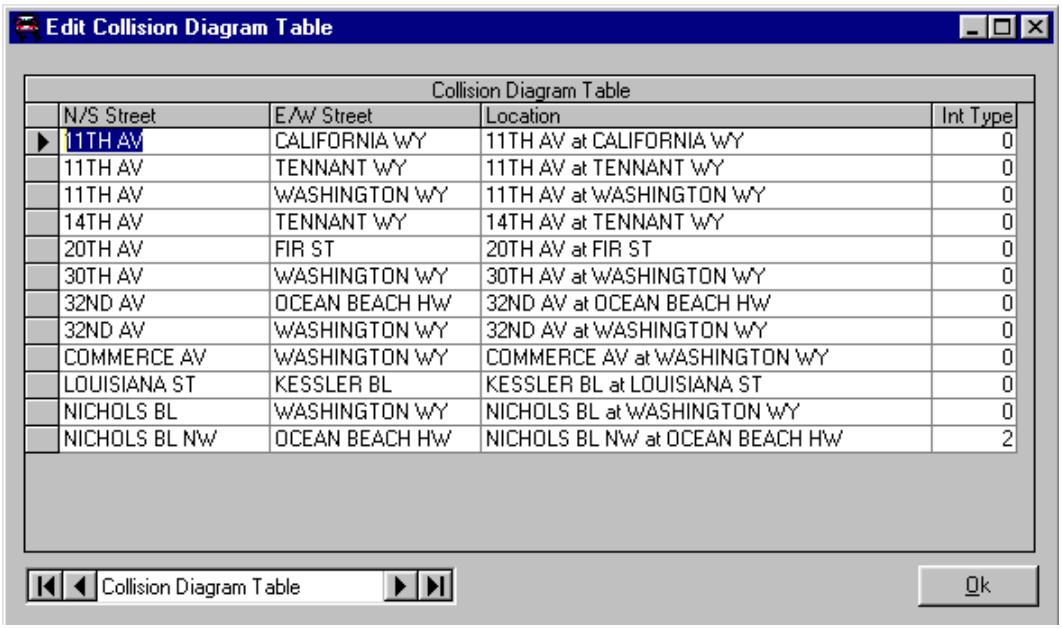



When a Collision Diagram is produced for the first time, the name of the North/South street and the East/West street and the intersection geometrics are stored in a database table *CollDiag*. The next time that particular intersection is chosen, the Collision Diagram is shown without asking which street is the north/south street and its geometric layout. This is because the information is stored in the database table *CollDiag*.

**Note:** The **Collision Diagram** option is discussed in detail in **Section IV**.

The **Edit-CD Corridor** option allows the data stored in the database table, **CollDiag**, to be modified/deleted.

Once the **Edit-CD Corridor** menu option is selected, the **Edit Collision Diagram Table** browse table is displayed. The following is an example of the **Edit Collision Diagram** browse table.




The database table has four fields. They are:

- The name of the North/South street.
- The name of the East/West street
- The location which is, effectively, the intersection's name.
- The intersection's geometrics code.

The Location's Name field **MUST** match the Intersection Name stored in the **LocationList** database table, therefore this field **should not be edited**.

The intersection geometrics field contains a number that ranges from 0 to 4. The following are the geometrics numbers and their respective definitions.

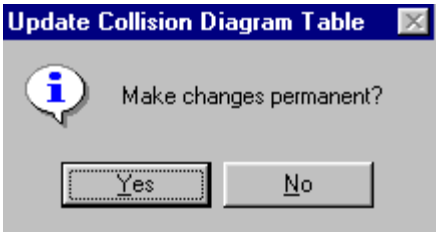
| Number | Definition |
|---|---|
| 0 | A four legged intersection |
| 1 | "Tee" intersection, north leg being the stem |
| 2 | "Tee" intersection, south leg being the stem. |

| | |
|---|---|
| 3 | "Tee" intersection, east leg being the stem. |
| 4 | "Tee" intersection, west leg begin the stem. |

To edit a record move the pointer, designated by the ►symbol in the leftmost column, to the desired record. The entire record will be highlighted. Edit the necessary field(s).

The ► symbol will be replaced by a pencil symbol that indicates the current data record has been modified.

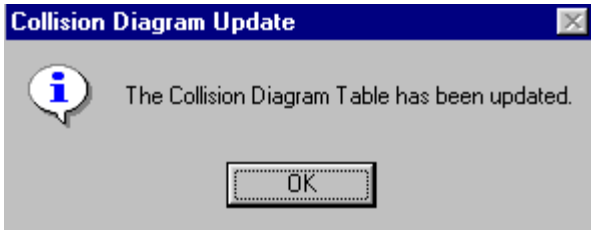
To store the modified data record, simply click on another record. Once another record has been clicked, the following message box will be displayed.




Clicking **No** will cancel the changes and display the following screen.


**Note:** The message box shown above is titled "DBGrid". DBGrid is a tool that comes with Visual Basic and has no specific meaning to the *Collision Record System*.

Selecting **Yes** will store the modified record into the CollDiag database table and the following message box will be displayed.



Once all the records have been modified, click the **Ok** button that is located in the lower right hand of the **Edit Collision Diagram Table** form. The program will return to the **Main Menu**.

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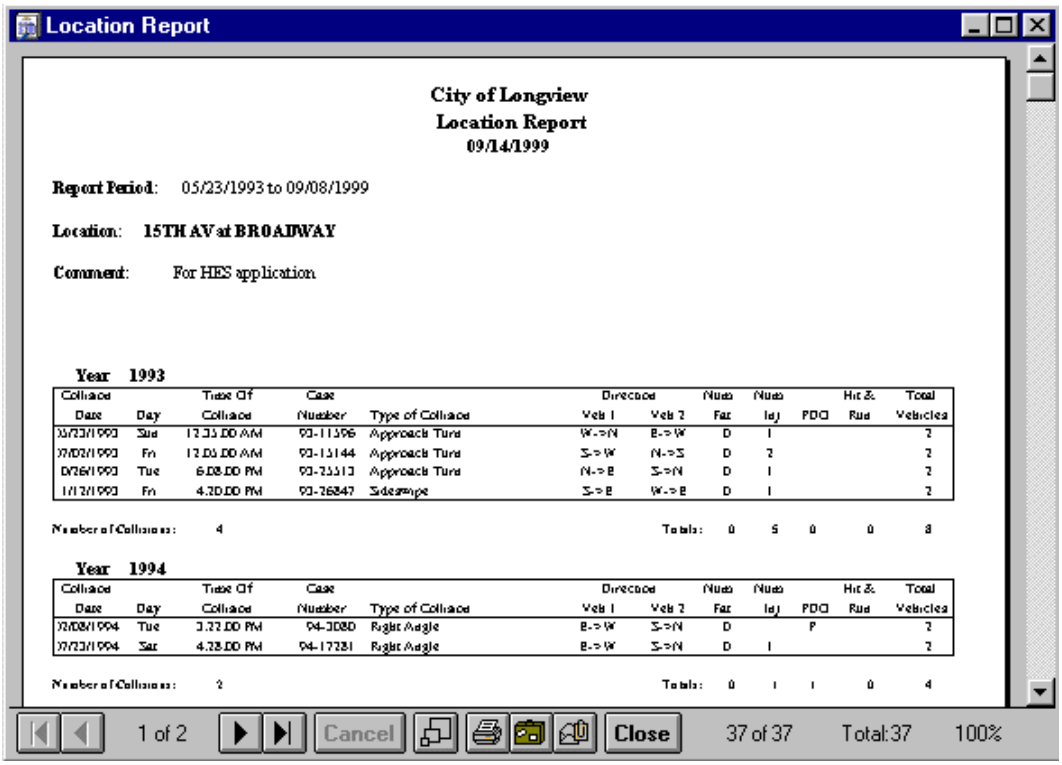
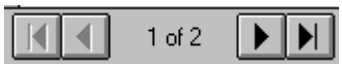
# Reports

The *Collision Record System* uses a third party report generator, **Crystal Reports**. One of the features of the *Collision Record System* is that all reports can be viewed first, then printed or imported to various formats. As each report is generated, it is displayed on the screen in a Crystal Report's Window. The following is an example of a report generated by **Crystal Reports**.

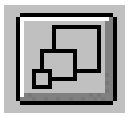



Clicking the maximize button, "X", located in the upper right corner of the window, will maximize the Crystal Report form and the report can be seen at a larger scale.

Along the bottom of the window is a tool bar that allows various functions of Crystal Report to be executed. The following is a description of these tools.

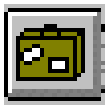



Navigation through the pages of the reports is done with this tool. The text in the middle indicates the current page being viewed and the total pages in the report. Clicking the single arrows will move you either to the next or to the previous page in the report. Clicking the arrows with a vertical bars will either move you to the last page or to the first page of the report.

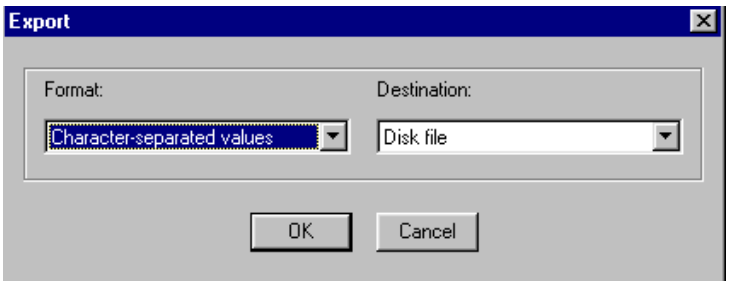


Clicking this tool will vary the zoom of the report. The report can be zoomed to view an entire page or to two higher zooms.

Clicking this symbol will print the report displayed in the form.



Exporting the report can be accomplished by clicking this symbol. Once the export option has been chosen, the following form will be displayed:

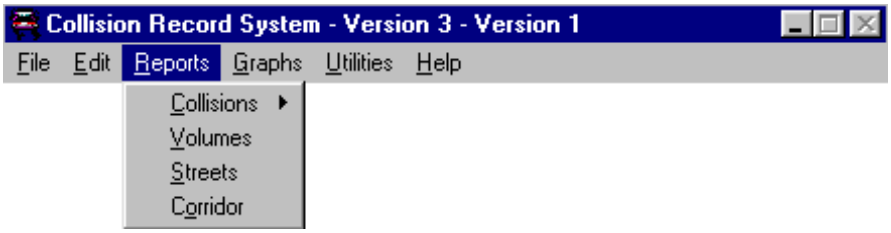



There are two drop down list boxes. The left provides the choices of format the report can be converted to and the right provides the destination choices for the exported report. It can be sent to disk or to Microsoft Mail.

The results of clicking this symbol are identical to the above export option with one exception; the default Destination location is Microsoft Mail.

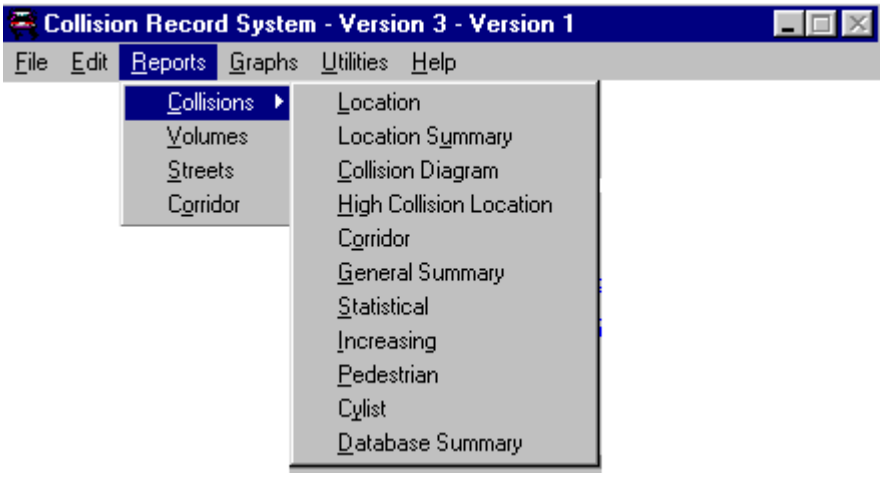

When all the desired actions have been taken, click **Close** to exit the Crystal Reports window.

The *Collision Record System* provides numerous reports. They are selected through the **Report** menu option. When the **Report** menu option is chosen by either clicking on **Report**, or pressing A r , the **Report** options are displayed. The following are the **Report** options.



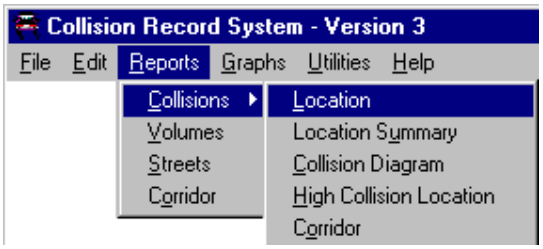
# Reports - Collisions:

The majority of the *Collision Record System's* reports are found under this menu option. Once the **Collisions** option is chosen, its submenu is displayed. The following are the **Reports – Collisions** options.

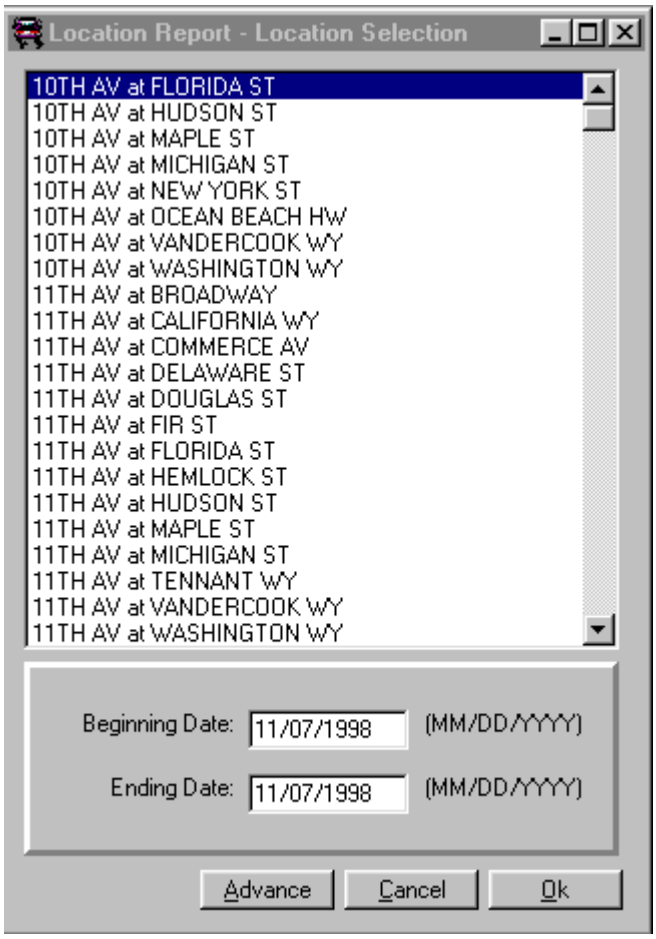



As the menu structure illustrates, there are eleven (11) options that can be selected. The following is a detailed description of each of the **Reports – Collisions** options.

## Reports – Collisions – Location:



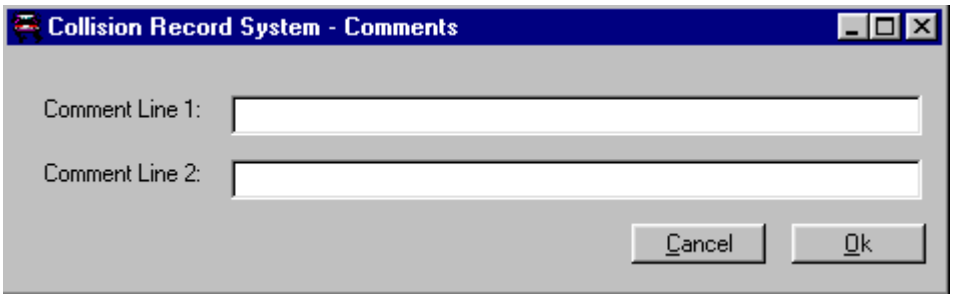

The Location Report is the most commonly generated report. Once the **Reports-Collisions-Location** option is chosen, the **Location Report – Location Selection** form is displayed. The following is an example of that form.




Select the location and any advance queries as described in *"Selecting an Intersection"* and *"Advance Querying"* in **Section I**.

> **Note:** As the highlight bar is moved from one intersection to another, the **Beginning Date** and **Ending Date** fields are updated to reflect the earliest and most recent date for the highlighted intersection.

Upon completion of location selection, click **Ok**, and the **Collision Record System – Comments** form will be displayed. The purpose of this form is to allow any special comments to be printed underneath the heading information of the **Location Report**. The following is the **Collision Record System – Comments** form.




Each comment line can contain up to sixty characters. If no comments are to be included in the **Location Report**, leave both comment text boxes empty and click **Ok**.

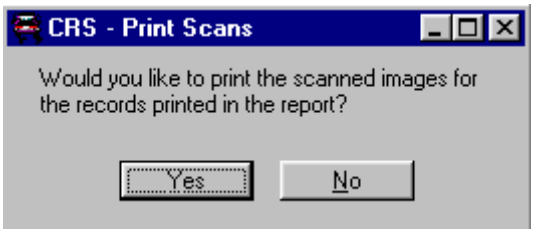
Once the comments, if any, have been entered, and **Ok** has been clicked, the **Report Options** form will the displayed. The following is that form.


The **Report Options** contains four (4) check box fields. Each of these fields is a report that can be generated with the records that meet the location, date range and advance queries that were selected in the **Location Report – Location Selection** form.

The bottom three (3) reports are the **Statistical** reports. Once **Ok** has been clicked, the reports that are checked are generated in separate Crystal Reports form that are stacked one on top of another.

You may view, export, and print the report in the top Crystal Report. Clicking **Close** will close the form and the Crystal Report form that is stored directly below it will be displayed. Repeat the above steps for each Crystal Report form.

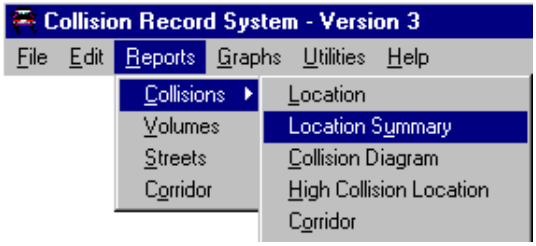
After the last Crystal Report has been closed, the following **Yes/No** message box will be displayed.



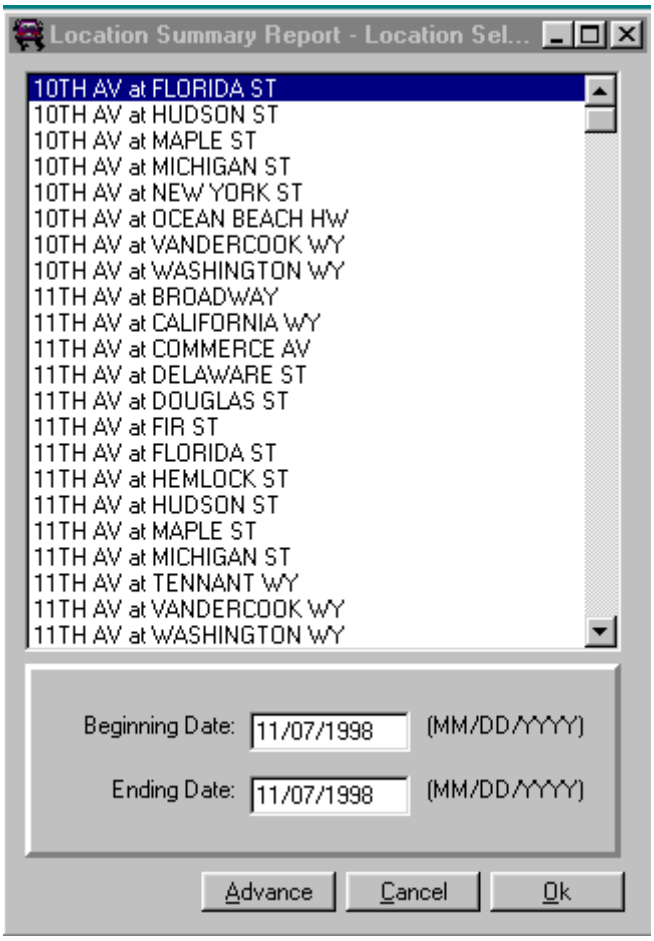

Selecting **Yes** will display all the scanned images for the collision records that were printed in the reports. Selecting **No** will return to the **Main Menu**.

If **Yes** was selected, and after all the scanned images have been viewed, the **Main Menu** will be redisplayed.

## Reports – Collisions – Location Summary:




The Location Summary Report is very useful when you are trying to determine correctible patterns in the collisions at a location. Once the **Reports-Collisions-Location Summary** option is chosen, the **Location Summary Report – Location Selection** form is displayed. The following is an example of that form.

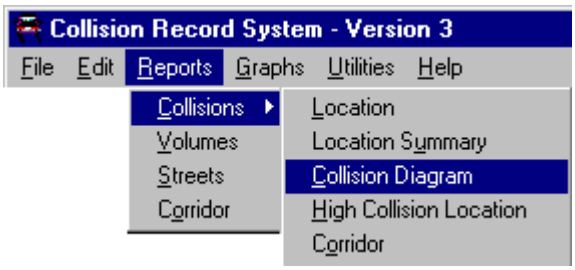



Select the location and any advance queries as described in *"Selecting an Intersection"* and *"Advance Querying"* in **Section I**.

> **Note:** As the highlight bar is moved from one intersection to another, the **Beginning Date** and **Ending Date** fields are updated to reflect the earliest and most recent date for the highlighted intersection.

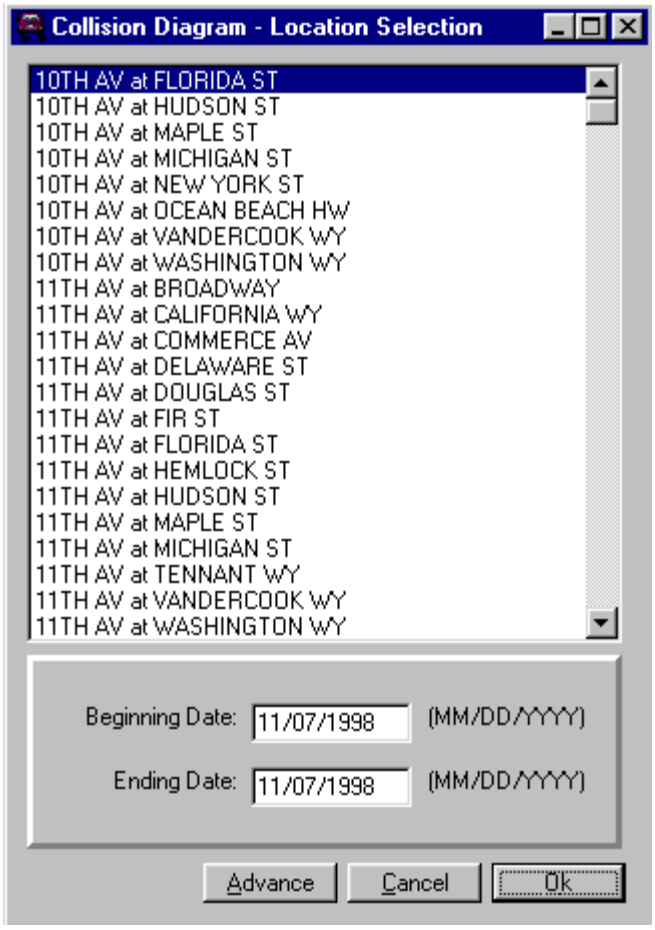
Upon completion of location selection, click **Ok**, and the **Location Summary Report** will be displayed in the Crystal Reports form.

## Reports – Collisions – Collision Diagram:




There is a saying, "A picture is worth a thousand words." A collision diagram is worth at least 500 words. Whereas the **Location Summary Report** helps determine patterns for such items as Day of Week, Weather, Light Condition and Roadway Conditions the **Collision Diagram** illustrates the types of collisions, where they occur and which direction is at fault.

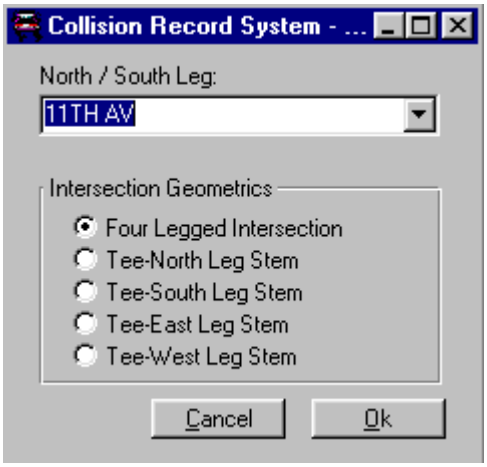
Once the **Reports-Collisions-Collision Diagram** option is chosen, the **Collision Diagram Report – Location Selection** form is displayed. The following is an example of that form.



Select the location and any advance queries as described in *"Selecting an Intersection"* and *"Advance Querying"* in **Section I**.

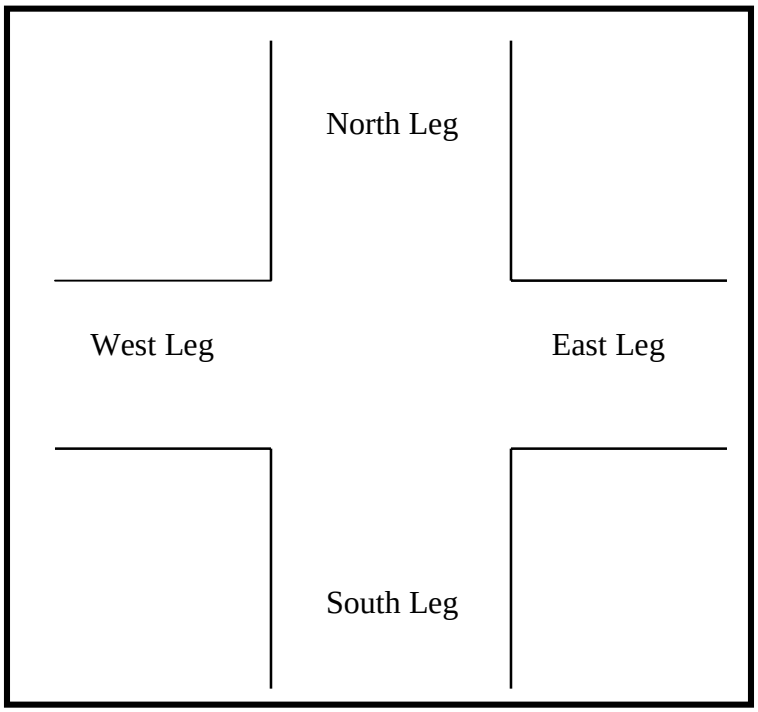
> **Note:** As the highlight bar is moved from one intersection to another, the **Beginning Date** and **Ending Date** fields are updated to reflect the earliest and most recent date for the highlighted intersection.

Upon completion of location selection, click **Ok.** If this is the first time the Collision Diagram Report has been selected for the chosen intersection, a form will be displayed in which two additional pieces of information are required. The following is an example of that form.

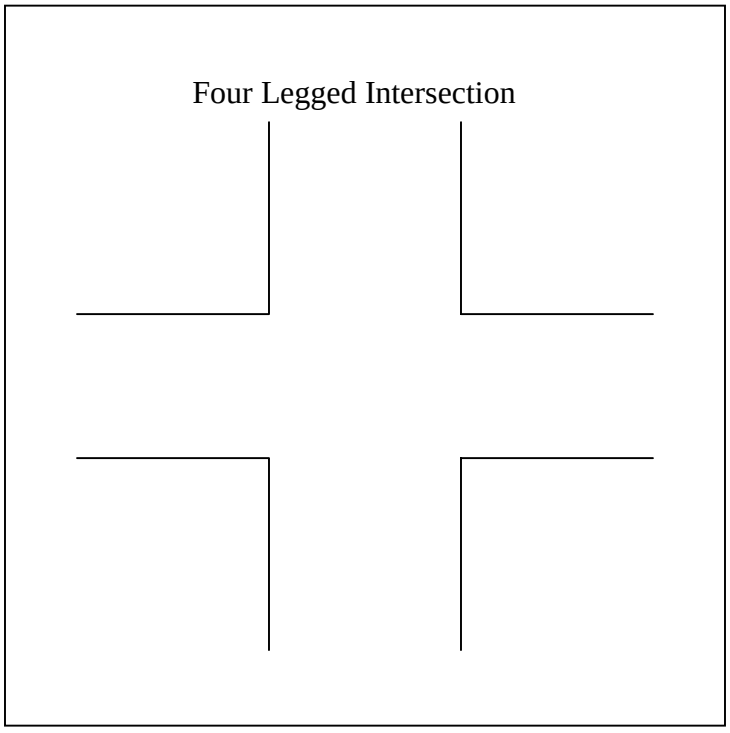



The form contains two data fields. They are:

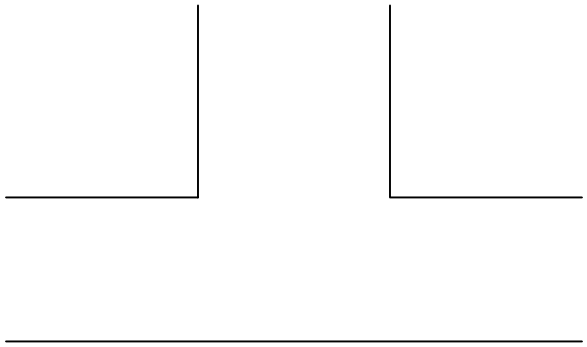
North/South Leg: This field is a drop down list box. The *Collision Record System* loads both street names into the drop down list box. Select the street that is the north leg of the intersection.



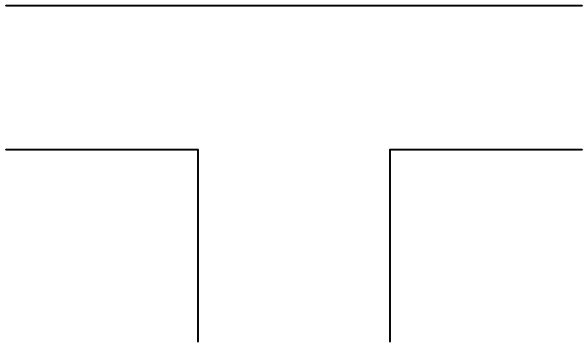

Intersection Geometrics: This field is a radio button field. The Collision Diagram supports five types of intersection geometrics. The following illustrates the five types of intersection geometrics.



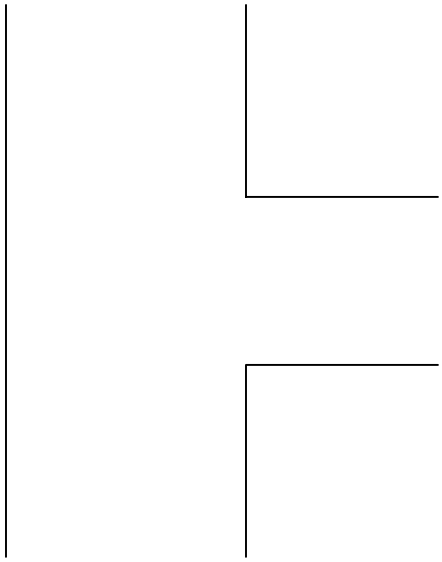
“Tee” Intersection – North Leg Stem

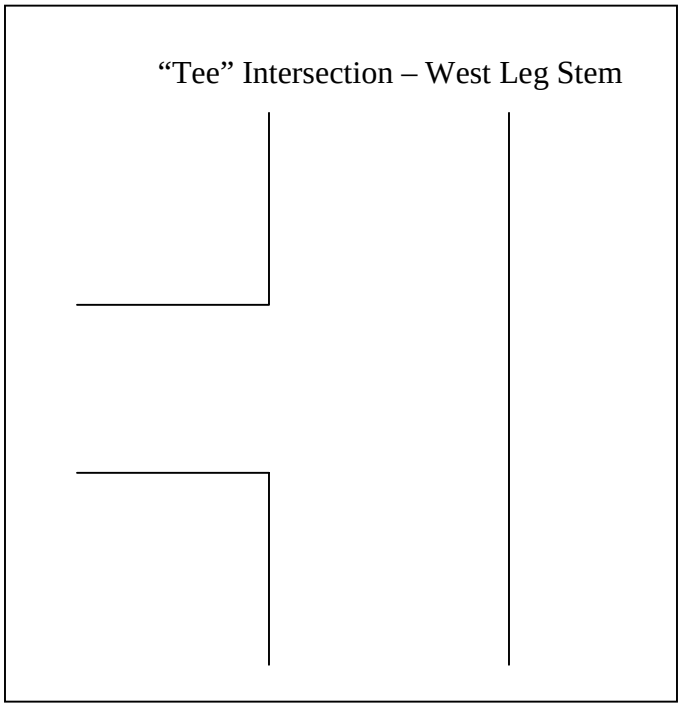


“Tee” Intersection – South Leg Stem



“Tee” Intersection – East Leg Stem

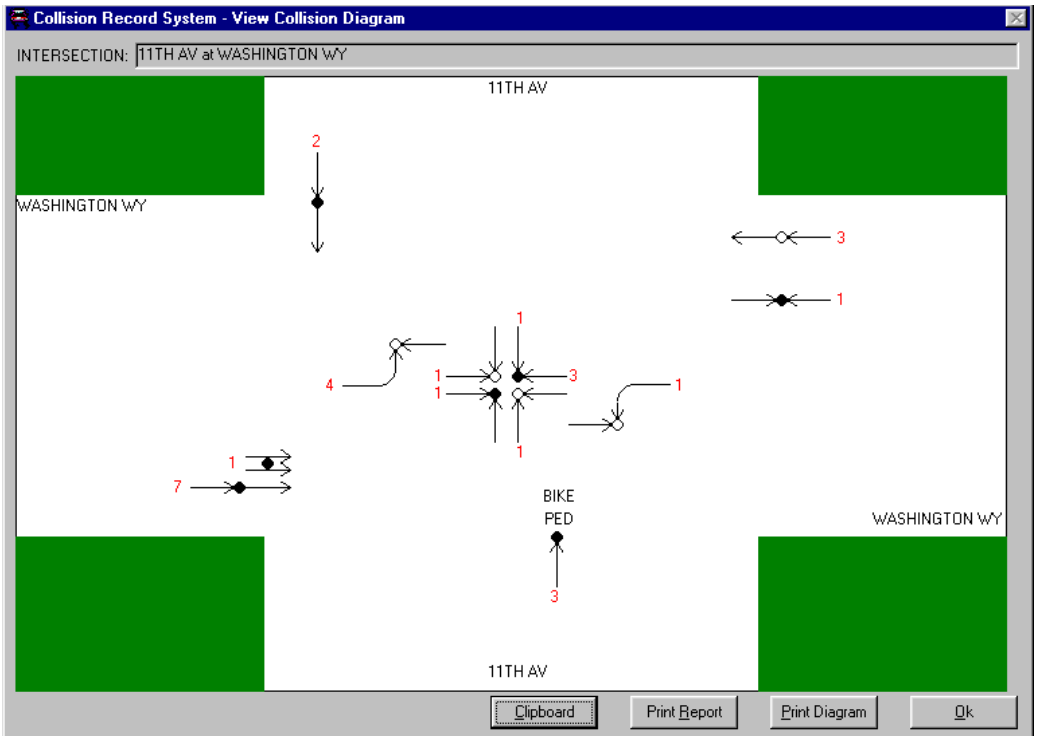





Select the appropriate intersection geometric using the methods described in *"Radio Button Fields"* found in **Section I**.

Clicking **Ok** will store the information in the database table **CollDiag**. The next time the intersection is selected, the north/south leg and the intersection geometrics will be retrieved from the database table and the Collision Diagram will be displayed.

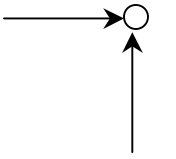
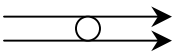
The following is an example of a four legged collision diagram.

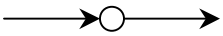
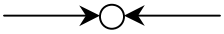
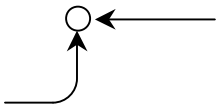
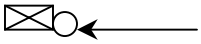
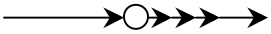
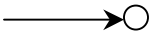



As shown above, there are red numbers displayed next to the pictorial representations of collision types. The numbers represent the numbers of collisions of that type and the locations of the number indicate the direction of the vehicles at fault.

> **Note:** The collision diagram assumes that vehicle one is at fault; therefore it is important that when entering collision records that vehicle one is a fault.

There are eight (8) symbols that can be displayed in the collision diagram. The following are the eight symbols and their definitions.

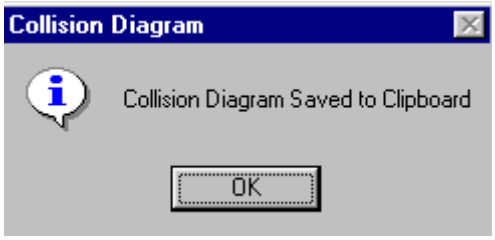
| Symbol | Definition |
|---|---|
|  | Right Angle Collision |
|  | Sideswipe Collision |

| Symbol | Definition |
|---|---|
|  | Rear End Collision |
|  | Head On Collision |
|  | Approach Turn Collision |
|  | Fixed Object/Parked Vehicle Collision |
|  | Backing Collision |
|  **P/B** | Pedestrian/Bicyclist Collision |

The legend above shows each of the symbols containing a hollow circle. The hollow circle indicates all the collisions were property damage only (PDO). If the circle is **solid**, then at least one of the collisions was injury related. If a solid rectangle replaces the circle, then at least one of the collisions was a fatality.

At the bottom of the **Collision Record System – View Collision Diagram** form are four (4) command buttons. The following are the four (4) command buttons and their respective descriptions.

| Button | Description |
|---|---|
|  | To store the Collision Diagram in the Windows clipboard so that it can be pasted into another application such as Microsoft Word or Paint click this button. Once **Clipboard** has been clicked, the following message box will be displayed. |




Once **Ok** has been clicked, the collision diagram has been saved to the Clipboard.

**Note:** To insert the Collision Diagram from the clipboard, simply make the destination application the current window. Move the cursor to the spot where the Collision Diagram is to be inserted and either press C V, or select **Paste** from the program's menu.

The image will be pasted into the application. One of the files included with the *Collision Record System* is the file **LEGEND.JPG**. This graphics file is the legend that appears when the Collision Diagram is printed. The graphic file can be inserted below the Collision Diagram and scaled to the appropriate size.

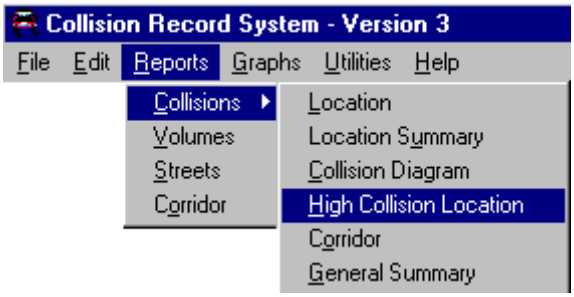

To print a report that is similar to the **Location Report** click this button. This report reflects the collisions shown on the Collision Diagram.

The **Collision Diagram Report** prints the collisions for each leg of the intersection in a clockwise direction beginning with the north leg and ending with the west leg.

An example of the **Collision Diagram Report** can be found in the Appendix.


To print out the Collision Diagram with the legend at the bottom of the page click this button.

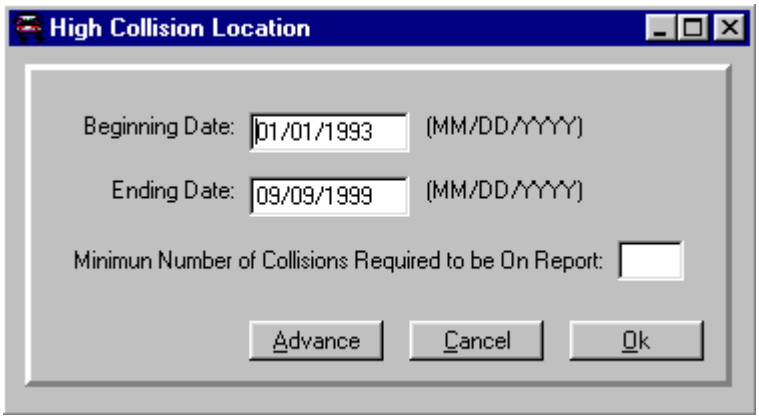

To close the **Collision Record System – View Collision Diagram** form and return to the **Main Menu** click this **Ok** button.




# Reports – Collisions – High Collision Location:

This report is one of the most useful reports in determining whether or not an improvement is needed at an intersection.

Once the **High Collision Location** option is selected, the **High Collision Location** form is displayed. The following is an example of the **High Collision Location** form.



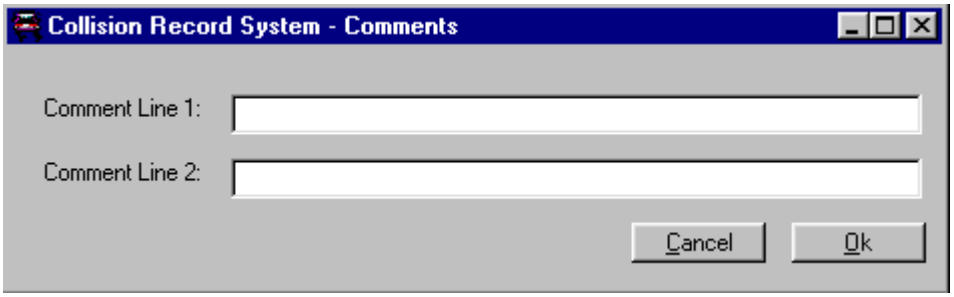

This form is identical to the **Date Period** form except an additional field has been added. The **Minimum Number of Collisions Required to be On Report** numeric field has been added. Enter the minimum number in this field.

For example, if three year's worth of data is to be scanned and only the intersections with at least six (6) collisions are to be displayed, then enter 6 in the **Minimum Number of Collisions Required to be On Report** numeric field.

Once the desired criteria are entered, click **Ok**.

The database table *CRS* will be scanned and a list of all the intersections that have at least the minimum number of collisions will be tabulated.

Upon completion of tabulation of the high collision locations, the **Collision Record System – Comments** form will be displayed. The purpose of this form is to allow any special comments to be printed underneath the heading information of the **High Collision Location** report. The following is the **Collision Record System – Comments** form.




Each comment line can contain up to sixty characters. If no comments are to be included in the **High Collision Location Report**, leave both comment text boxes empty and click **Ok**.

Once the comments, if any, have been entered, and **Ok** has been clicked, the **Report Options** form will be displayed. The following is that form.


The qualifying intersections can be sorted three (3) ways.

Ranked by Number of Collisions: This report will list the intersections that meet the criteria specified in the **High Collision Location** form ranked by the number of collisions, with the intersection having the highest number of collisions ranked as number one. If more than one intersection has the same number of collisions, they are ranked in alphabetical order.

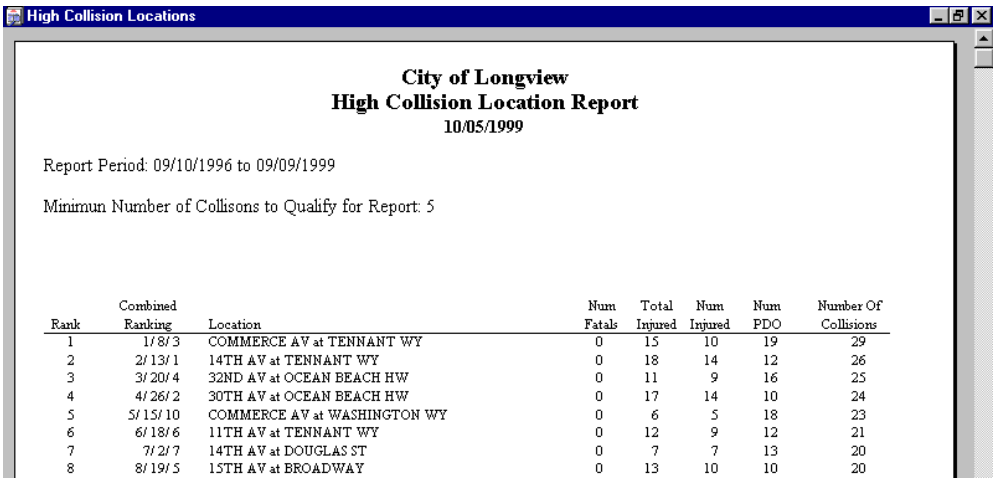
Ranked by Collision Rate: This report will search the *Volumes* database table and if there are corresponding volumes, a collision rate will be calculated. The intersections are then ranked by the collision rate in descending order. If an intersection does not have a corresponding volume, then its collision rate will be zero.

Ranked by Overall Cost: The **Options** form has fields in which dollar amounts can be assigned to fatalities, injuries, and property-damage-only collisions. These amounts are used to help calculate a total cost associated with a collision. The number of fatalities, injuries and property-damage-

only collisions are multiplied by their appropriate dollar amount and the collisions are ranked in descending order. If more than one intersection has the same total cost, they are ranked in alphabetical order.

When the desired reports are *"checked,"* click **Ok**. Each report will be generated and placed in its own Crystal Report form. If multiple reports are selected, they are stacked on top of one another. As the topmost report is closed, the next report will appear.

The following is an example of a **High Collision Report** that is ranked by the number of collisions.


High Collision Locations

**City of Longview**
**High Collision Location Report**
**10/05/1999**

Report Period: 09/10/1996 to 09/09/1999

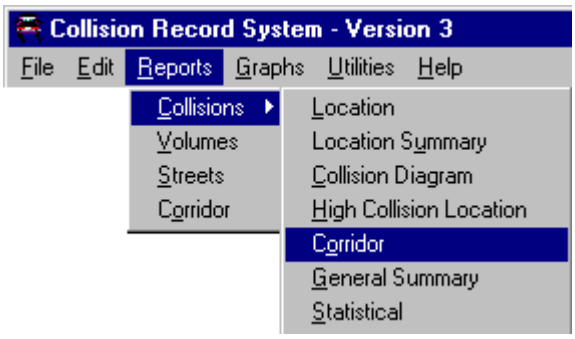
Minimun Number of Collisons to Qualify for Report: 5

| Rank | Combined Ranking | Location | Num Fatals | Total Injured | Num Injured | Num PDO | Number Of Collisions |
|---|---|---|---|---|---|---|---|
| 1 | 1/8/3 | COMMERCE AV at TENNANT WY | 0 | 15 | 10 | 19 | 29 |
| 2 | 2/13/1 | 14TH AV at TENNANT WY | 0 | 18 | 14 | 12 | 26 |
| 3 | 3/20/4 | 32ND AV at OCEAN BEACH HW | 0 | 11 | 9 | 16 | 25 |
| 4 | 4/26/2 | 30TH AV at OCEAN BEACH HW | 0 | 17 | 14 | 10 | 24 |
| 5 | 5/15/10 | COMMERCE AV at WASHINGTON WY | 0 | 6 | 5 | 18 | 23 |
| 6 | 6/18/6 | 11TH AV at TENNANT WY | 0 | 12 | 9 | 12 | 21 |
| 7 | 7/2/7 | 14TH AV at DOUGLAS ST | 0 | 7 | 7 | 13 | 20 |
| 8 | 8/19/5 | 15TH AV at BROADWAY | 0 | 13 | 10 | 10 | 20 |

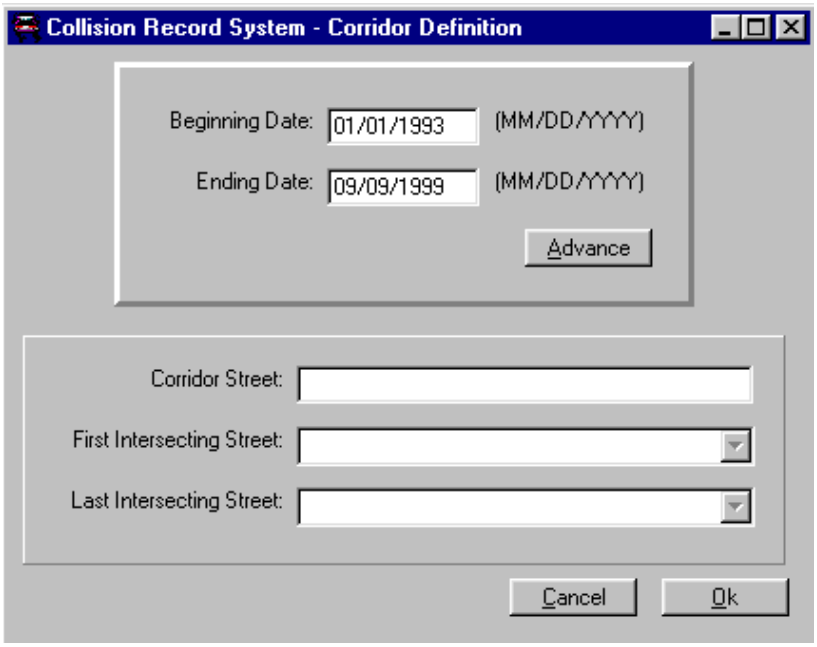
The second column is the **Combined Ranking**. For each intersection, there are three numbers listed under the **Combined Ranking**. The first number is the ranking when sorted by number of collisions. The second number is the intersection ranking when sorted by collision rate. The third number is the ranking when sorted by total cost.

After all of the Crystal Report Forms are closed, the *Collision Record System* will return to the **Main Menu**.

# Reports – Collisions – Corridor:




This report will print all the collision along a corridor. Once the **Reports-Collisions-Corridor** option is chosen, the **Collision Record System – Corridor Definition** form is displayed. The following is an example of that form.



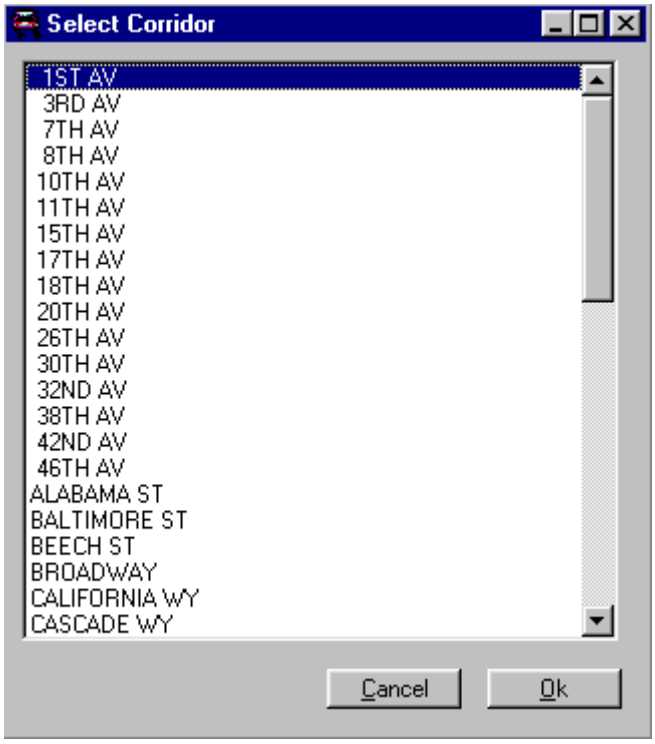

There are four (4) steps to successfully completing this form. They are:

Selecting the Date Period:
The date displayed in the **Beginning Date** field is the date of the **earliest** collision record stored in the database. The date displayed in the **Ending Date** field is the date of the **most recent** collision record stored in the database.

The desired date period can be chosen as described in "*Specifying a Date Period*" in **Section I**.

Clicking the **Advance** button will allow additional filtering of the data that is found within the specified date period. Entering a query should be done as described in *"Advance Querying"* in **Section I**.

Selecting the Corridor Street:
Once the date period has been selected, clicking the **Corridor** text box will display the **Select Corridor** form. The following is an example of the **Select Corridor** form.




Only those streets whose intersecting streets are defined under the **File-New-Corridor** option are listed in the list box.

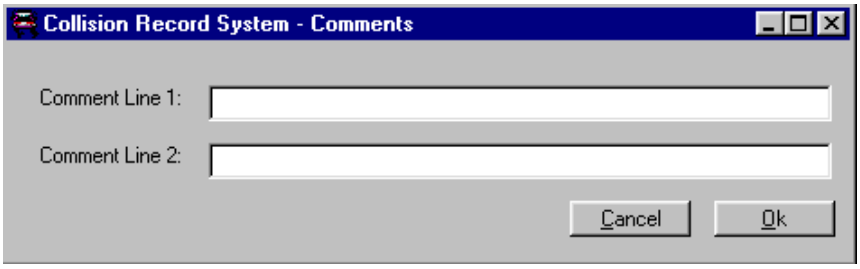
Highlight the street, the collisions of which are to be browsed and click **Ok**. Clicking Cancel will close this form, cancel the **Report- Corridor** option and return to the **Main Menu**.

Selecting the First Intersecting Street:
Once the street has been selected, all the intersecting streets will be loaded into the **First Intersecting Street's** drop down list box. The most southerly/westerly street will be displayed. Select the first intersecting street. Selecting an item from a drop down list box is described in **Section I**.

Selecting the Last Intersecting Street:
After the **First Intersecting Street** has been selected, all the intersecting streets that are to the north/east of the First Intersecting Street will be loaded into the **Last Intersecting Street's** drop down list box.

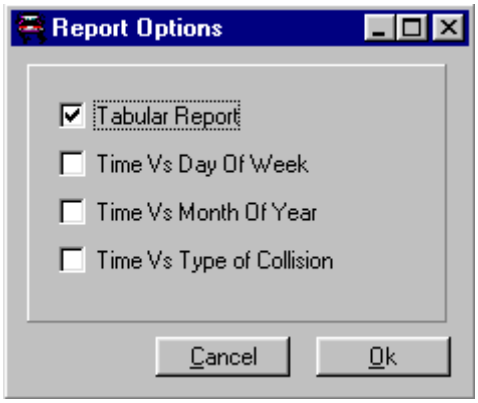
Select the last intersecting street. Selecting an item from a drop down list box is described in **Section I**.

Once the four items have been selected, click **Ok**. The collision records will be scanned for those records that meet the criteria. Upon completion of the scan , the **Collision Record System – Comments** form is displayed. The purpose of this form is to allow any special comments to be printed underneath the heading information of the **Corridor Report**. The following is the **Collision Record System – Comments** form.




Each comment line can contain up to sixty characters. If no comments are to be included in the **Corridor Report**, leave both comment text boxes empty and click **Ok**.

Once the comments, if any, have been entered, and **Ok** has been clicked, the **Report Options** form will be displayed. The following is that form.

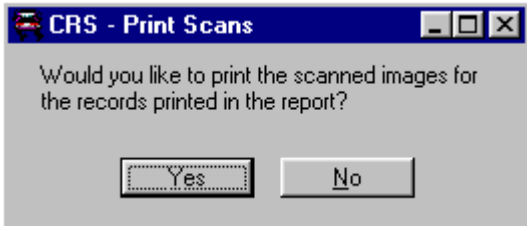



The **Report Options** contains four (4) check box fields. Each of these fields is a report that can be generated from the collision records that are within the selected corridor, date range and advance queries that were selected in the **Collision Record System – Corridor Definition** form.

The bottom three (3) reports are the **Statistical** reports. Once **Ok** has been clicked, the reports that are checked are generated in separate Crystal Reports form that are stacked one on top of another.

You may view, export, and print the report in the top Crystal Report. Clicking **Close** will close the form and the Crystal Report form that is stored directly below will be displayed. Repeat the above steps for each of the Crystal Report forms.

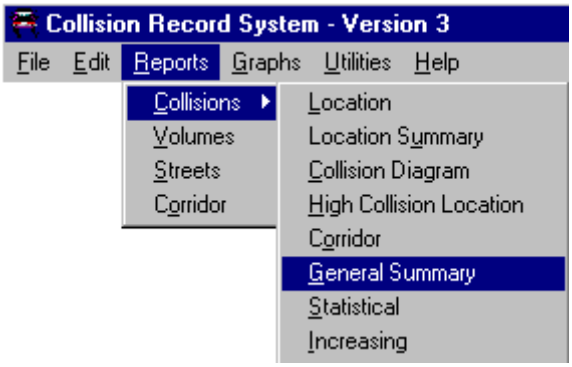
After the last Crystal Report has been closed, the following **Yes/No** message box will be displayed.




Selecting **Yes** will cause all the scanned images for the collision records that were printed in the report to be displayed. Selecting **No** will return to the **Main Menu**.

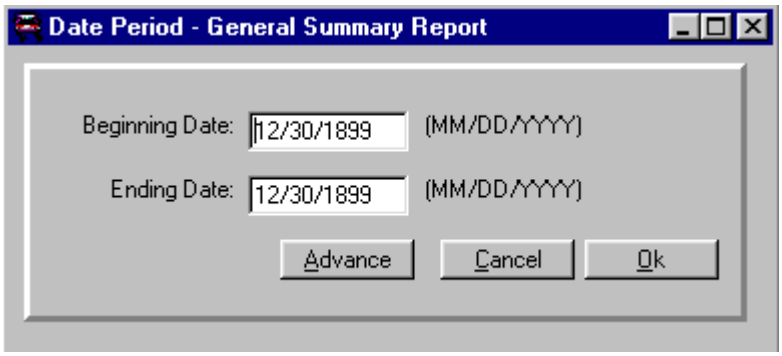
If **Yes** was selected, and after all the scanned images have been viewed, the **Main Menu** will be redisplayed.

## Reports – Collisions – General Summary:




Many of the reports provide data for specific needs. For example, the **Location Report** will print all the collisions at a specific intersection. There are times, however, when the collision data needs to be sorted in a specified manner that does not fit into any of the other pre-defined reports.

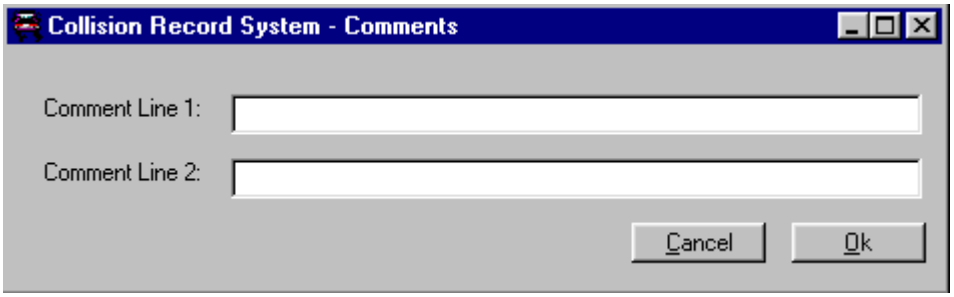
The **General Summary Report** allows the user to define the filtering criteria for the data. Once the **Reports-Collisions-General Summary** option has been chosen the **Date Period – General Summary Report** form will be displayed. The following is an example of that form.




The date period can be specified as described in *"Specifying a Date Period"* in **Section I**.

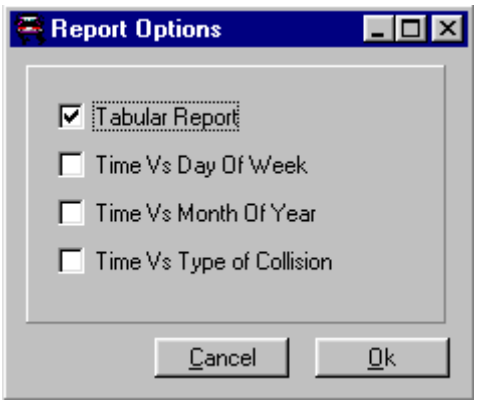
An advance query can be defined as described in *"Advance Querying"* in **Section I**.

Once the date period and advance queries have been defined, click **Ok**. The **Collision Record System – Comments** form will be displayed. The purpose of this form is to allow any special comments to be printed underneath the heading information of the **General Summary Report**. The following is the **Collision Record System – Comments** form.




Each comment line can contain up to sixty characters. If no comments are to be included in the **Corridor Report**, leave both comment text boxes empty and click **Ok**.

Once the comments, if any, have been entered, and **Ok** has been clicked, the **Report Options** form will the displayed. The following is that form.

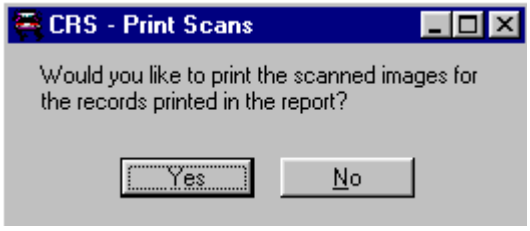



The **Report Options** from contains four (4) check box fields. Each of these fields is a report that can be generated with the collision records that are in the date range and advance queries that were selected in the **Date Period – General Summary Report** form.

The bottom three (3) reports are the **Statistical** reports. Once **Ok** has been clicked, the reports that are checked are generated in separate Crystal Reports forms that are stacked one on top of another.

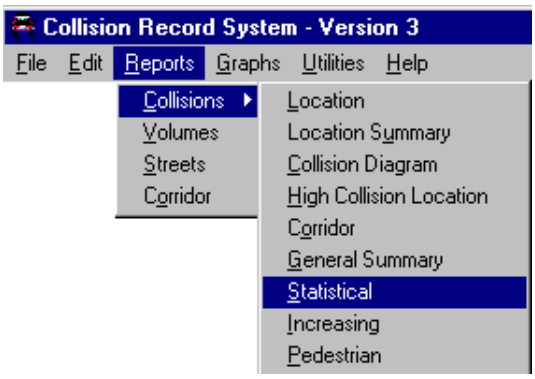
You may view, export, and print the report in the top Crystal Report form. Clicking **Close** will close the top form and the Crystal Report form that is stored directly below it will be displayed. Repeat the above steps for each of the Crystal Report forms.

After the last Crystal Report has been closed, the following **Yes/No** message box will be displayed.



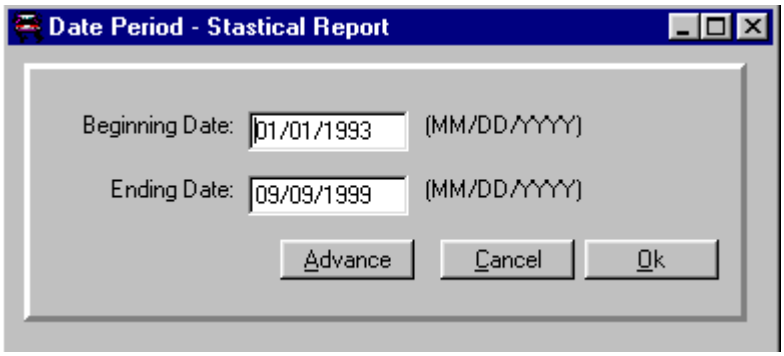

Selecting **Yes** will cause all the scanned images for the collision records that were printed in the report to be displayed. Selecting **No** will return to the **Main Menu**.

If **Yes** was selected, after all the scanned images have been viewed the **Main Menu** will be redisplayed.




## Reports – Collisions – Statistical:

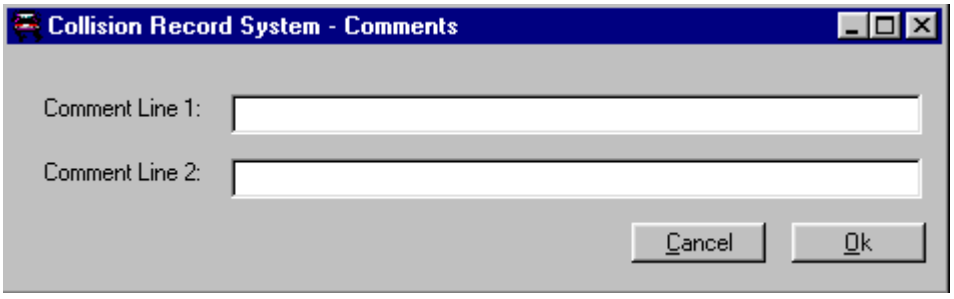
In analyzing collision data, looking for patterns is important. The **Statistical Report** can generate three matrix reports that can help determine traffic patterns. Once the **Report-Collisions-Statistical** option is selected, the **Date Period – Statistical Report** form is displayed. The following is an example of that form.




The date period can be specified as described in *"Specifying a Date Period"* in **Section I**.

An advance query can be defined as described in *"Advance Querying"* in **Section I**.

Once the date period and advance queries have been defined, click **Ok**. Next, the **Collision Record System – Comments** form is displayed. The purpose of this form is to allow any special comments to be printed underneath the heading information of the **Statistical Report**. The following is the **Collision Record System – Comments** form.



Each comment line can contain up to sixty characters. If no comments are to be included in the **Statistical Report**, leave both comment text boxes empty and click **Ok**.

Once the comments, if any, have been entered and **Ok** has been clicked, the **Report Options** form will be displayed. The following is that form.


Three different statistical reports can be generated. They are:

**Time of Day Vs Day of Week:** The matching collisions are displayed in a matrix where each day of the week is a column and the hours of the day are the rows. Each row is totaled and each column is totaled. The percentage of each column total is calculated and displayed in the row directly below the each column total.

**Time of Day Vs Month of Year:** The matching collisions are displayed in a matrix where each month of the year is a column and the hours of the day are the rows. Each row is totaled and each column is totaled. The percentage of each column total is calculated and displayed in the row directly below the each column total.

**Time of Day Vs Type of Collision:** The matching collisions are displayed in a matrix where each type of collision is a column and the hours of the day are the rows. Each row is totaled and each column is totaled. The percentage of each column total is calculated and displayed in the row directly below the each column total.

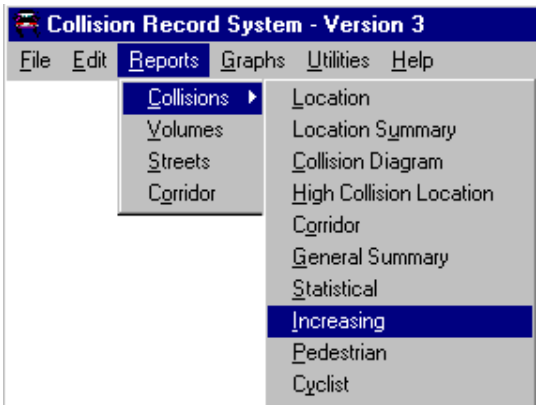
Check the appropriate boxes for reports to be created. Once **Ok** has been clicked, the reports that are checked are generated in separate Crystal Reports forms that are stacked one on top of another.

You may view, export, and print the report in the top Crystal Report form. Clicking **Close** will close the top form and the Crystal Report form that is stored

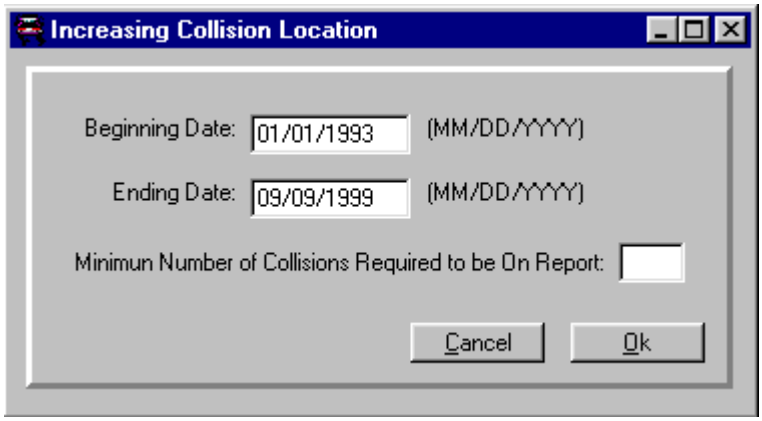
directly below it will be displayed. Repeat the above steps for each of the Crystal Report forms.

After the last Crystal Report form has been closed, the *Collision Record System* will return to the **Main Menu**.

## Reports – Collisions – Increasing:




One sign that an intersection needs modifying is that each year there are more collisions at the intersection. Once the **Reports-Collisions-Increasing** option is selected, the **Increasing Collision Location** form is displayed. The following is an example of the **Increasing Collision Location** form.




The report generated will display up to three year's worth of collisions.

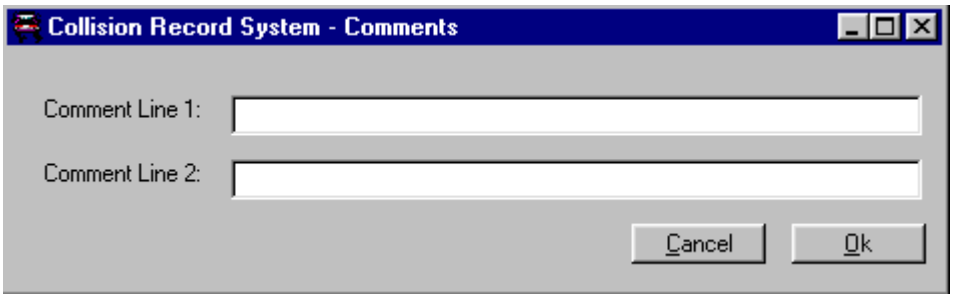
The date period can be specified as described in *"Specifying a Date Period"* in **Section I**.

To best explain the **Minimum Number of Collisions Required to be On Report** field is by example.

Example: An **Increasing Collision Location** report is to be generated for the years, 1996, 1997, and 1998. It is desired that in order for

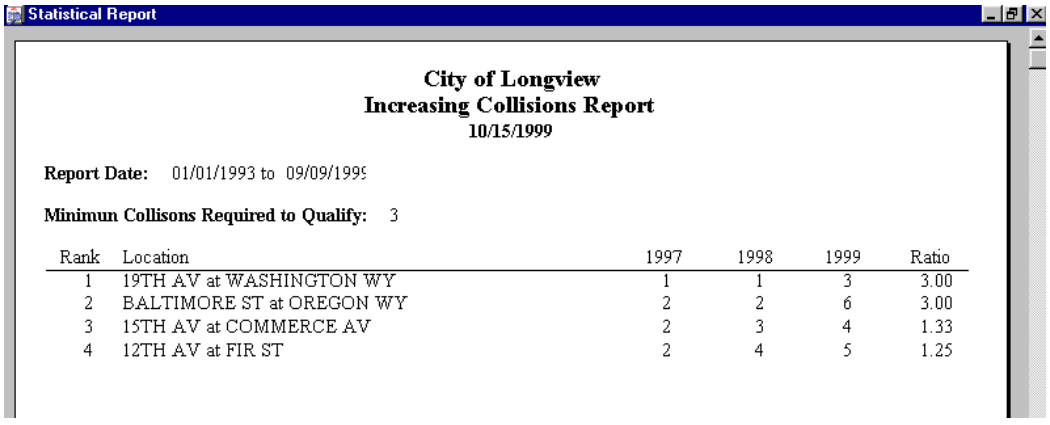
an intersection to be included on the report the minimum number of collisions that occurred at in 1998 is three (3). The number "3" should then be entered in the field **Minimum Number of Collisions Required to be On Report**.

Once the date period and advance queries have been defined, click **Ok**. Next, the **Collision Record System – Comments** form is displayed. The purpose of this form is to allow any special comments to be printed underneath the heading information of the **Collision Increasing Report**. The following is the **Collision Record System – Comments** form.




Each comment line can contain up to sixty characters. If no comments are to be included in the **Increasing Report**, leave both comment text boxes empty and click **Ok**.

Once the comments, if any, have entered, and **Ok** has been clicked, the **Increasing Report** will be the created. The following is an example of the **Increasing Report**.


Statistical Report

**City of Longview**
**Increasing Collisions Report**
**10/15/1999**

**Report Date:** 01/01/1993 to 09/09/1999

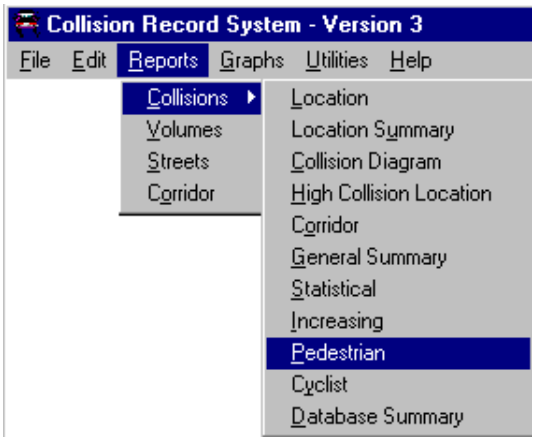
**Minimun Collisons Required to Qualify:** 3

| Rank | Location | 1997 | 1998 | 1999 | Ratio |
|---|---|---|---|---|---|
| 1 | 19TH AV at WASHINGTON WY | 1 | 1 | 3 | 3.00 |
| 2 | BALTIMORE ST at OREGON WY | 2 | 2 | 6 | 3.00 |
| 3 | 15TH AV at COMMERCE AV | 2 | 3 | 4 | 1.33 |
| 4 | 12TH AV at FIR ST | 2 | 4 | 5 | 1.25 |

Each qualifying intersection is ranked by its ratio. The ratio is the number of collisions that occurred in the most recent specified year divided by the second most recent year.

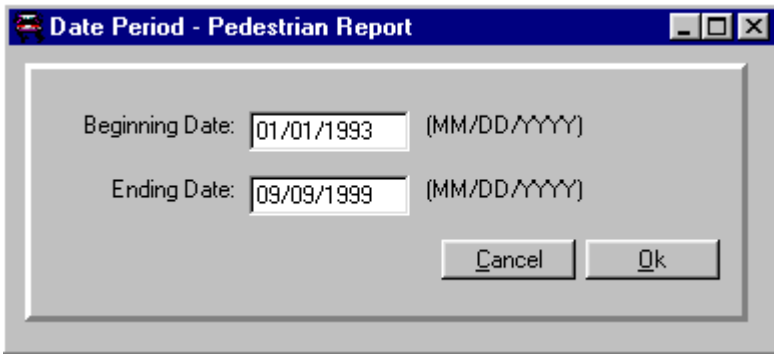
You may view, export, and print the report in the Crystal Report form. Clicking **Close** will close the Crystal Report form and the *Collision Record System* will return to the **Main Menu**.

## Reports – Collisions – Pedestrian:



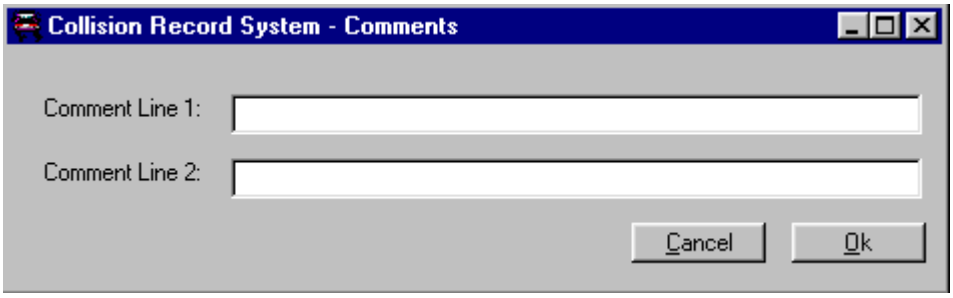

Pedestrian collisions are one of the most publicized types of collisions. The Pedestrian Action field, boxes 23 and 24, located along the lower left hand side of the first page of the **State of Washington Police Traffic Collision Report** that are pedestrian specific**.**

The **Pedestrian Involved Report** contains two matrixes that have the days of the week as the column headings and pedestrian action and pedestrian using as the rows. Once the **Reports-Collisions-Pedestrian** option has been chosen, the **Date Period – Pedestrian Report** form will be displayed. The following is an example of that form.




The date period can be specified as described in *"Specifying a Date Period"* in **Section I**.

Once the date period and advance queries have been defined, click **Ok**. Next, the **Collision Record System – Comments** form is displayed. The purpose of this form is to allow any special comments to be printed underneath the heading information of the **Pedestrian Involved Report**. The following is the **Collision Record System – Comments** form.

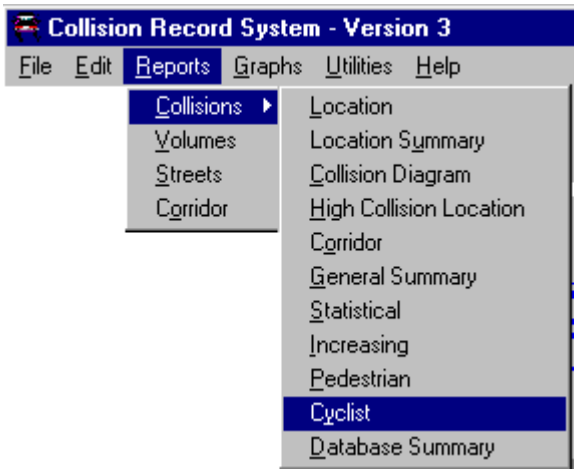



Each comment line can contain up to sixty characters. If no comments are to be included in the **Pedestrian Involved Report**, leave both comment text boxes empty and click **Ok**.

Once the comments, if any, have been entered and **Ok** have been clicked, the **Pedestrian Involved Report** will be the created.

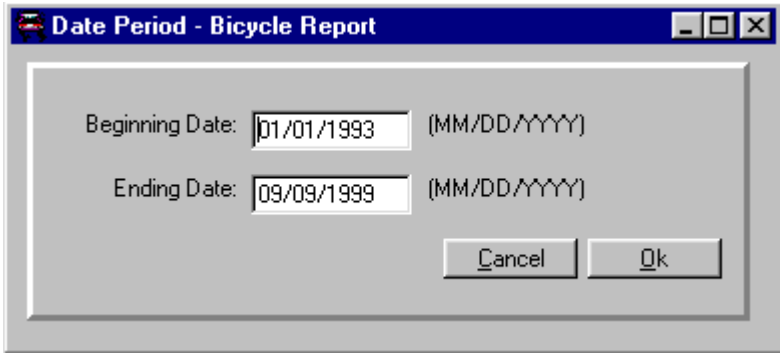
You may view, export, and print the report in the Crystal Report form. Clicking **Close** will close the Crystal Report form and the *Collision Record System* will return to the **Main Menu**.

## Reports – Collisions – Cyclist:

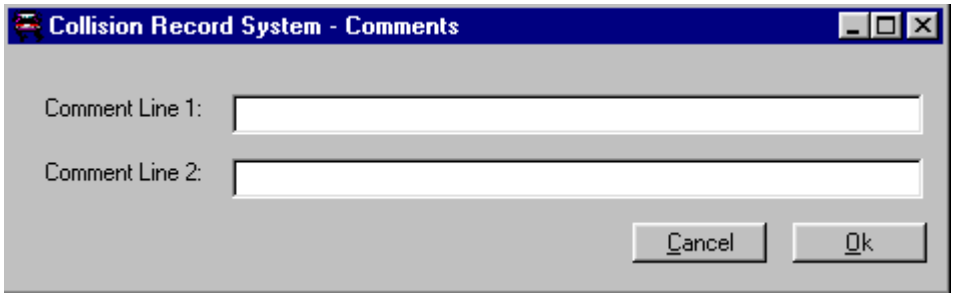



Along with pedestrian collisions, pedal cycle collisions are one of the most publicized types of collisions. The Pedalcyclist Action field, boxes 25 and 26, located along the lower left hand side of the first page of the **State of Washington Police Traffic Collision Report** that are pedal cycle specific**.**

The **Bicycle Involved Report** contains two matrixes that have the days of the week as the column headings and pedalcyclist action and pedestrian/pedalcyclist using as the rows. Once the **Reports-Collisions-Cyclist** option has been chosen, the **Date Period – Bicycle Report** form will be displayed. The following is an example of that form.



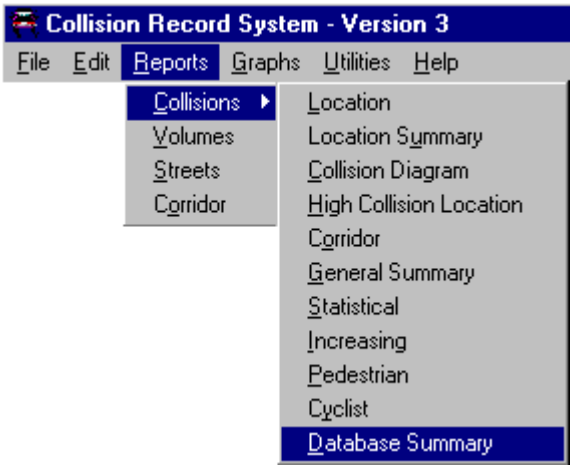

Once the date period and advance queries have been defined, click **Ok**. Next, the **Collision Record System – Comments** form is displayed. The purpose of this form is to allow any special comments to be printed underneath the heading information of the **Bicycle Involved Report**. The following is the **Collision Record System – Comments** form.




Each comment line can contain up to sixty characters. If no comments are to be included in the **Bicycle Involved Report**, leave both comment text boxes empty and click **Ok**.

Once the comments, if any, have been entered and **Ok** have been clicked, the **Bicycle Involved Report** will be the created.

You may view, export, and print the report in the Crystal Report form. Clicking **Close** will close the Crystal Report form and the *Collision Record System* will return to the **Main Menu**.




## Reports – Collisions – Database Summary:

The **Database Summary Report** is a tabular report that lists all the locations of collisions. The report contains four (4) columns. They are:

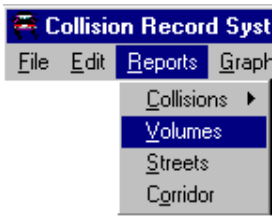
- Location of Collision
- Earliest Collision Date
- Latest Collision Date
- Number of Collisions

The locations are listed in alphabetical order.

Once the **Reports-Collisions-Database Summary** has been chosen, the report is automatically generated and displayed in a Crystal Report form.

You may view, export, and print the report in the Crystal Report form. Clicking **Close** will close the Crystal Report form and the *Collision Record System* will return to the **Main Menu**.

## Reports - Volumes:




The *Collision Record System* calculates the collision rate for many reports. In order to perform the calculation, volumes must be entered. The volumes are stored in the database table *Volumes*.

The **Intersection Entering Volumes Report** is a tabular report with six (6) columns. They are:

- Location
- Entering Volumes, Northbound
- Entering Volumes, Southbound
- Entering Volumes, Eastbound

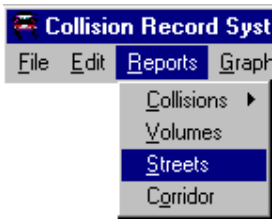
- Entering Volumes, Westbound
- Total Entering Volume

The locations are listed in alphabetical order.

Once **Reports-Volumes** has been chosen, the report is automatically generated and displayed in a Crystal Report form.

You may view, export, and print the report in the Crystal Report form. Clicking **Close** will close the Crystal Report form and the *Collision Record System* will return to the **Main Menu**.

## Reports - Streets:




The *Collision Record System* stores the street names in a database table *StreetList*. Each street name has an unique street number.

The **Street Name Report** is a tabular report with two (2) columns. They are:

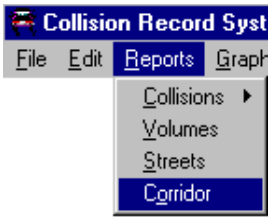
- Street Number
- Street Name

The street names are listed in alphabetical order.

Once **Reports-Streets** has been chosen, the report is automatically generated and displayed in a Crystal Report form.

You may view, export, and print the report in the Crystal Report form. Clicking **Close** will close the Crystal Report form and the *Collision Record System* will return to the **Main Menu**.

## Reports - Corridor:




Corridors are defined and stored in the database table *CorridorList*. Each corridor consists of a street and its intersecting streets. The intersecting streets have an associated sequence number. The most southerly or westerly intersecting street should have the lowest sequence number.

The **Corridor List Report** is a tabular report with three (3) columns. They are:

- Street Name
- Sequence Number
- Intersecting Street Name

The street names are listed in alphabetical order.

Once **Reports-Corridor** has been chosen, the report is automatically generated and displayed in a Crystal Report form.

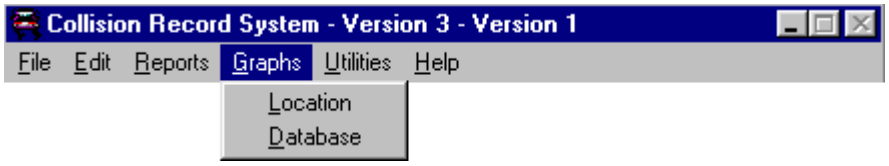
You may view, export, and print the report in the Crystal Report form. Clicking **Close** will close the Crystal Report form and the *Collision Record System* will return to the **Main Menu**.

**Note:** Examples of each of the reports can be found in the Appendix.

# Graphs

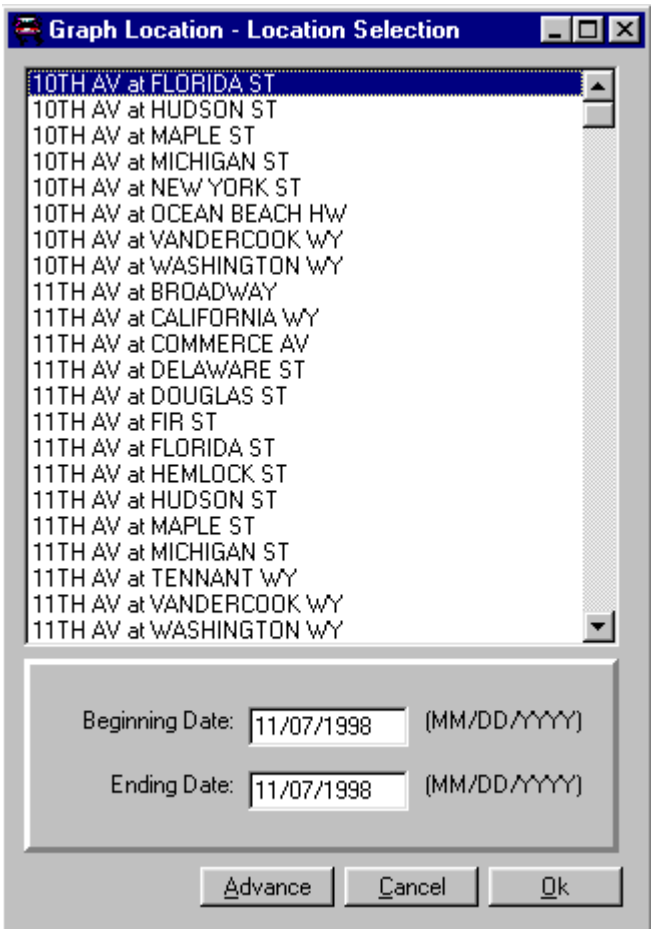
A picture is worth a thousand words. This is especially true when presenting collision data to a council, to commissioners, or to citizens. The *Collision Record System* provides a variety of graphs that can be saved to disk, printed, or incorporated into word processing programs through the Window's clipboard.

The **Graphs** menu option will generate these graphs. When the **Graphs** menu option is chosen by either clicking on **Graphs** or by pressing A g, the **Graphs** options are displayed. The following are the **Graphs** options.




## Graphs - Location:

Selecting the collision records to be displayed in a graphical format is identical to the **Reports-Collision-Location** menu option. Once the **Graphs-Location** menu option has been selected, the **Graph Location – Location Selection** form will be displayed. The following is an example of that form.

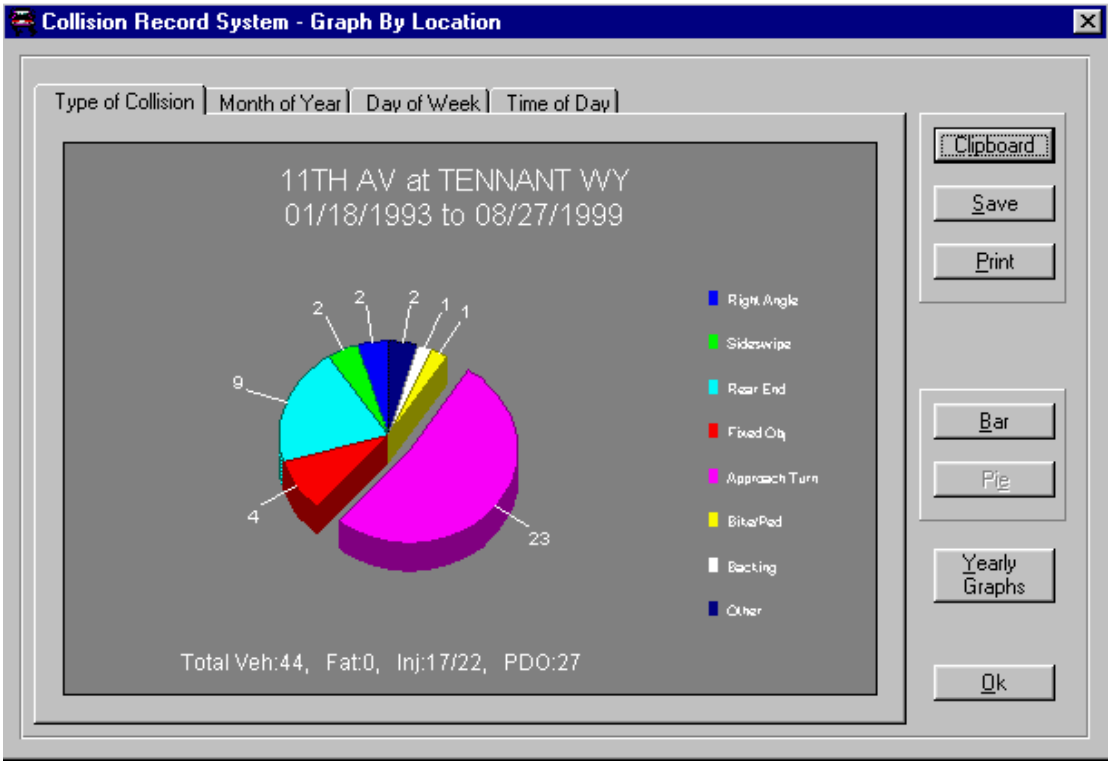



Select the location and any advance queries as described in *"Selecting an Intersection"* and *"Advance Querying"* in **Section I**.

> **Note:** As the highlight bar is moved from one intersection to another, the **Beginning Date** and **Ending Date** fields are updated to reflect the earliest and most recent date for the highlighted intersection.

Upon completion of location selection, click **Ok**, and the *Collision Record System* will scan the database table *CRS* for matching collision records. After the filtering of the data, graphs will be generated and the **Collision Record System – Graph By Location** form will be displayed.

The following is an example of the graphs produced for the intersection of 11$^{th}$ Avenue and Tennant Way.




The collision data for the specified location can be displayed in four (4) graphical formats. They are:

- Type of Collision
- Month of Year
- Day of Week
- Time of Day

Each of these graphs can be displayed by clicking on their respective tab, located along the top of the form.

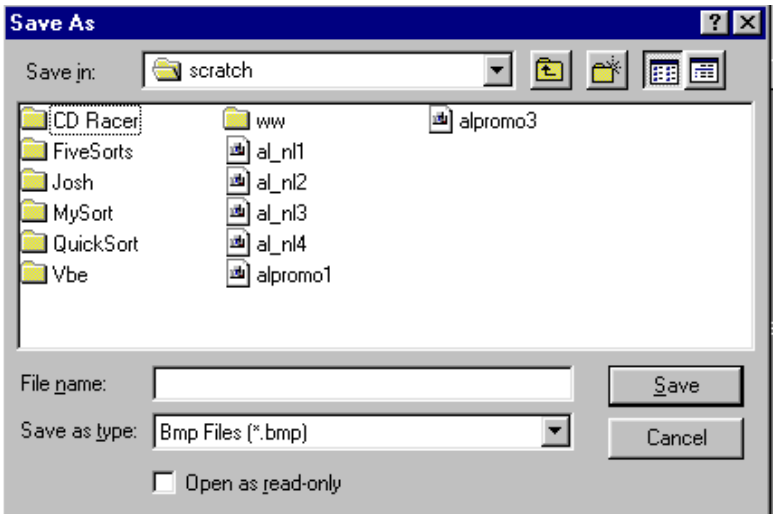
Along the right side of the form are seven (7) command buttons. They are:


Clicking the **Clipboard** command button will save the graph currently displayed to the clipboard. The background will be changed from gray to white. This allows for better black and white printing.

Once the graph has been saved to the clipboard, the graph can be pasted into any other Windows program that supports cut and paste commands.

Save

Clicking the **Save** command button will allow the graph that is presently displayed to be saved to a disk file in a **BMP** format. Once **Save** is clicked, the standard Window's **Save As** form will be displayed. The following is an example of the **Save As** window:




Once the graph has been assigned a name and is saved, it can be edited in numerous graphics programs, such as Paint or Paint Shop Pro. The graph file can also be inserted a variety of Windows programs.

Print

Clicking the **Print** command button will print the currently displayed graph.

Bar

Each graph can be displayed in two (2) formats, as a pie chart or a bar chart. If the graph is currently being displayed as a pie chart, clicking the **Bar** command button will convert the graph into a bar graph. Once the graph has been converted to a bar graph, the **Bar** command button will be disabled, and the **Pie** command button will be enabled.

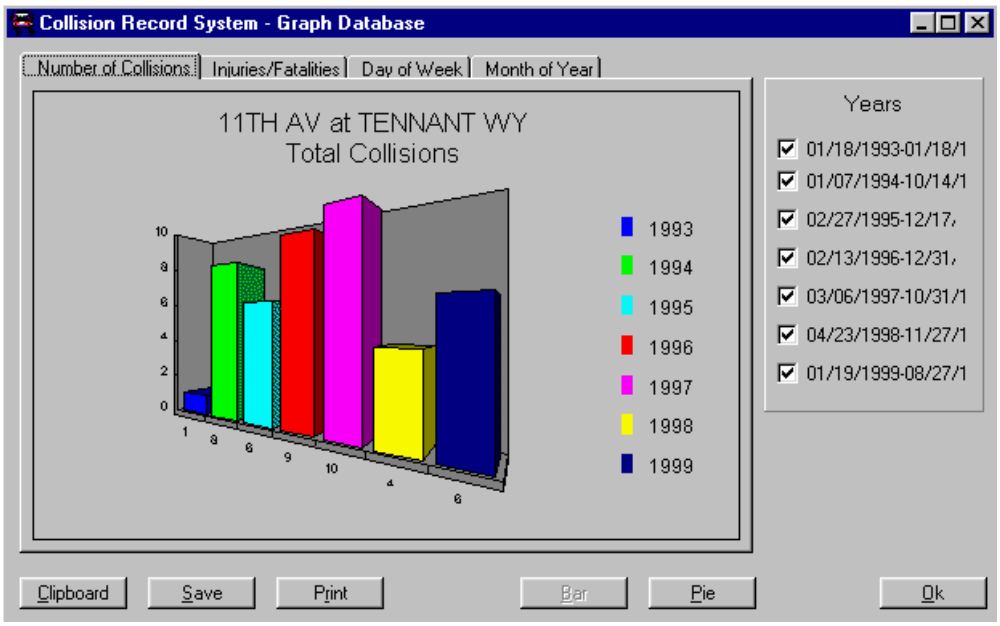
Pie

If the graph is currently being displayed as a bar graph, clicking the **Pie** command button will convert the graph into a pie chart. Once the graph has been converted to a pie chart, the **Pie** command button will be disabled, and the **Bar** command button will be enabled.

Yearly Graphs

The **Graph by Location** form displays the cumulative total for the entire date period selected. Many times a year-by-year comparison is helpful when determining corrective patterns. Clicking the

**Yearly Graph** command button will display the **Yearly Graph** form. The following is an example of the **Yearly Graph** form:




The format of the **Yearly Graph** form is similar to that of the **Graph By Location** form. There are four (4) graphs that can be viewed by clicking on their respective tabs. They are:

- Number of Collisions
- Injury/Fatalities
- Day of Week
- Month of Year

As shown in the example above, the upper right portion of the form is occupied by a series of check boxes. These represent the years that are included in the date period that was specified. Clicking the check boxes can toggle the years. As a year is toggled, the graph is redrawn.

For the **Number of Collisions** and the **Injuries/Fatalities** graphs, the command buttons displayed along the bottom of the form are the same as the command buttons on the **Graph By Location** form.

The **Day of Week** and the **Month of Year** graphs are displayed differently from the **Number of Collisions** and **Injuries/Fatalities** graphs. The **Day of Week** and the **Month of Year** graphs are displayed **only** as bar graphs. The type of bar graph, two-

dimensional or three dimensional, can be toggled by clicking the appropriate command button.

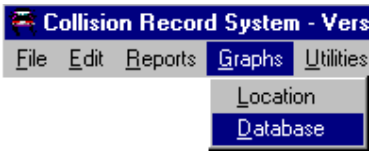
A major difference is that a maximum of three (3) year's worth of data can be displayed at one time. This was made a design feature for several reasons. First, most traffic studies use only three (3) year's worth of data. Second, using more than three year's worth of data made the graphs too crowded and hard to read.

Check the check boxes for the years, up to three, to be displayed. Then click the **Replot** command button to re-generate the graph.

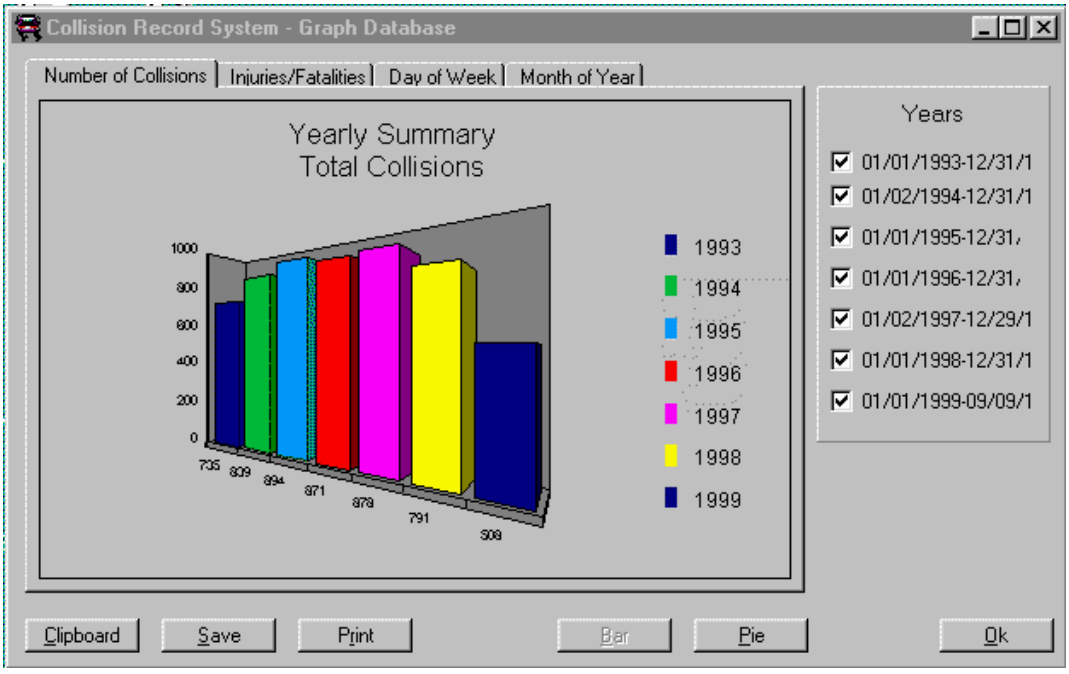
Once the graphs have been viewed, saved, and/or printed, click **Ok** to return to the **Graph By Location** form.


Clicking the **Ok** button will close the **Graph By Location** form and return to the **Main Menu**.

## Graphs - Database:




The **Graph-Database** option provides a graphical representation of yearly totals for the collisions stored in the database table *CRS*. Once the **Graphs-Database** menu option has been selected, the graphs are generated and the **Collision Record System - Graph Database** form will be displayed. The following is an example of that form.



There are four (4) graphs that can be viewed by clicking on their respective tabs. They are:

- Number of Collisions
- Injury/Fatalities
- Day of Week
- Month of Year

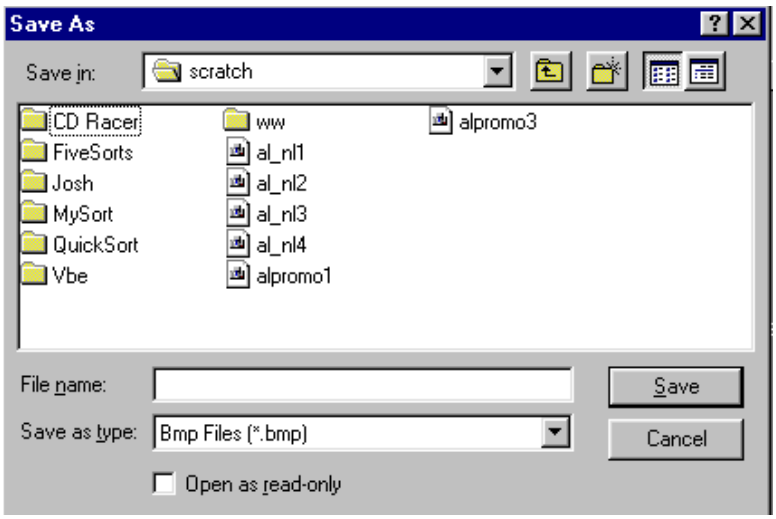
Each year that has collisions is represented by a check box. In the example shown above, there are collisions for the years 1993 through 1999. Unchecking a year's check box will automatically replot the graph.

Along the bottom of the above form are displayed six (6) buttons. They are:


Clicking the **Clipboard** command button will save the graph currently displayed to the clipboard. The background will be changed from gray to white. This allows for better black and white printing.

Once the graph has been saved to the clipboard, the graph can be pasted into any other Windows program that supports cut and paste commands.


Clicking the **Save** command button will allow the graph that is presently displayed to be saved to a disk file in a **BMP** format. Once **Save** is clicked, the standard Window's **Save As** form will be displayed. The following is an example of the **Save As** window:



Once the graph has been assigned a name and is saved, it can be edited in numerous graphics programs, such as Paint or Paint Shop Pro. The graph file can also be inserted a variety of Windows programs.

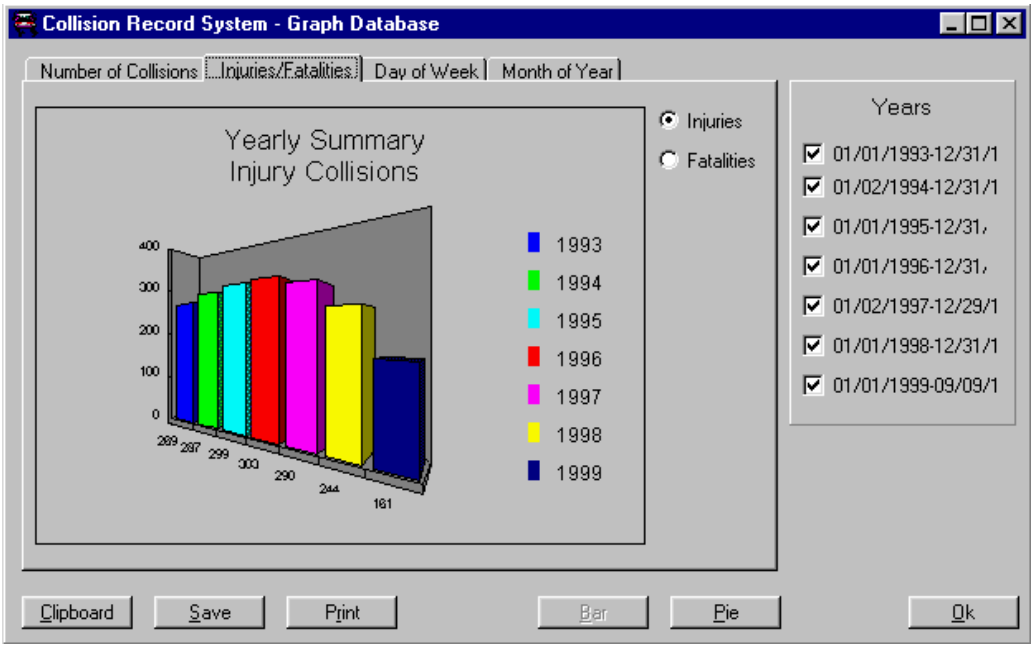
Print — Clicking the **Print** command button will print the currently displayed graph.

Bar — Each graph can be displayed in two (2) formats, as a pie chart or as a bar chart. If the graph is currently being displayed as a pie chart, clicking the **Bar** command button will convert the graph into a bar graph. Once the graph has been converted to a bar graph, the **Bar** command button will be disabled, and the **Pie** command button will be enabled.

Pie — If the graph is currently being displayed as a bar graph, clicking the **Pie** command button will convert the graph into a pie chart. Once the graph has been converted to a pie chart, the **Pie** command button will be disabled, and the **Bar** command button will be enabled.

Ok — Clicking the **Ok** button will close the **Graph Database** form and return to the **Main Menu**.

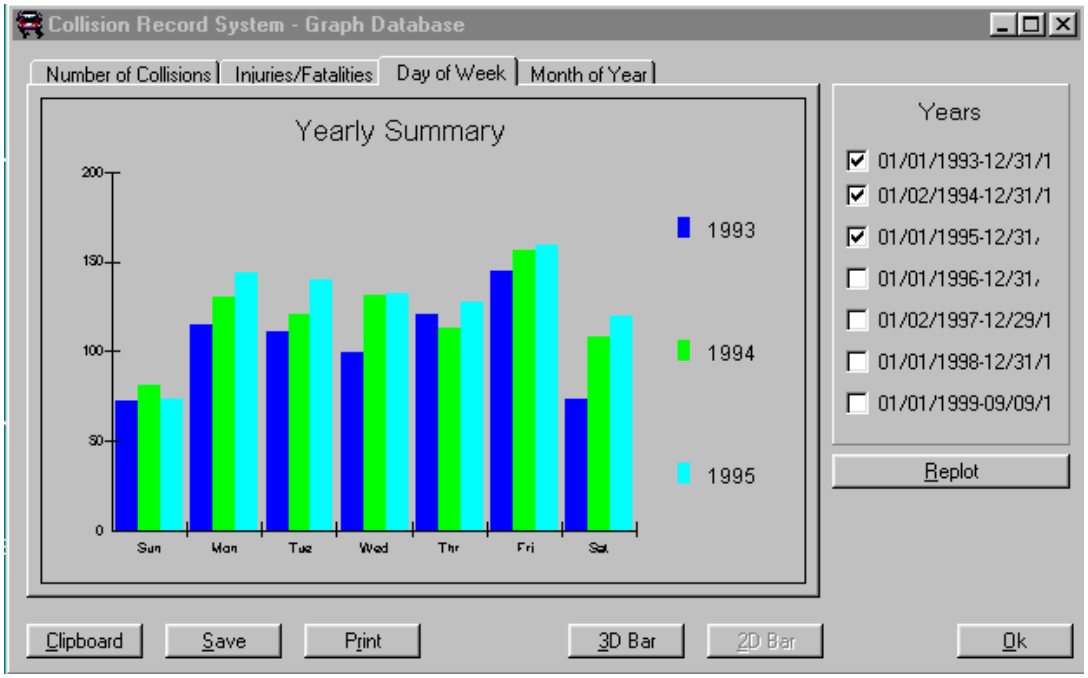
Several of the graphs have functions that differ from the **Number of Collisions** graph. The following is an example of the Injury/Fatalities graph.



The **Injuries/Fatalities** graph has two radio buttons: **Injuries** and **Fatalities**. By default, the injuries are initially displayed. Clicking on the **Fatalities** radio button will graph the number of fatalities for each year.

> **Note:** If there are no fatalities the two radio buttons will not be displayed.

The **Day of Week** and **Month of Year** graphs have two features that are different from the **Number of Collisions** graph. The following is an example of the **Day of Week** graph.




The **Day of Week** and the **Month of Year** graphs are displayed **only** as bar graphs. The type of bar graph, two-dimensional or three dimensional, can be toggled by clicking the appropriate command button.

> **Note:** The 3D Bar and 2D Bar buttons are labeled Pie and Bar in both the Number of Collisions and Injuries/Fatalities graphs.

A major difference is that a maximum of three (3) year's worth of data can be displayed at one time. This was made a design feature for several reasons. First, most traffic

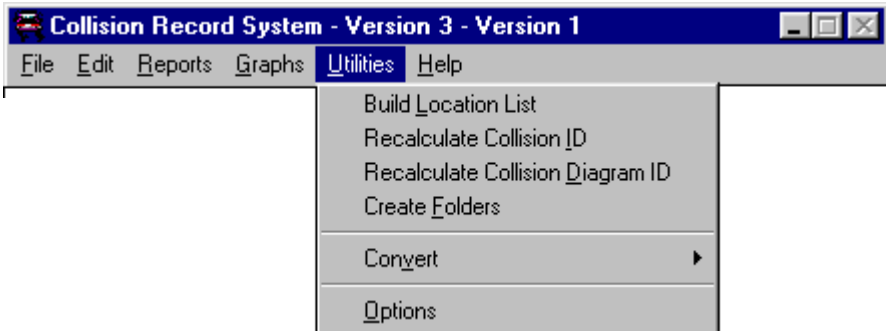
studies use only three (3) year's worth of data. Second, using more than three year's worth of data made the graphs too crowded and hard to read.

Check the check boxes for the years, up to three, to be displayed. Then click the **Replot** command button to re-generate the graph.

Once the graphs have been viewed, saved, and printed click **Ok** and the program will return to the **Main Menu**.

# Utilities

The **Utilities** menu option allows for execution of various database maintenance tasks, creation of folders, in which scanned images are to be stored, and modification and storage of global options for the *Collision Record System*. When the **Utilities** menu option is chosen by either clicking on **Utilities** or pressing A u, the **Utilities** options are displayed. The following are the **Utilities** options.




## Utilities – Build Location List:

The Microsoft Access database, **UTEC.MDB**, contains multiple database tables. The database table **LocationList** stores the following information for each intersection stored in the database table *CRS*.

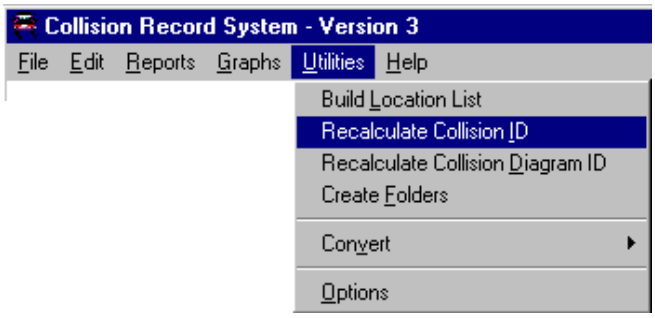
| **Field** | **Description** |
|---|---|
| LocDesc | The location of the collision. |
| On | The street on which the collision occurred on. |
| RefStreet | The reference street of the collision. |
| OnNum | The number associated with the street the collision occurred on. (This number is assigned by the **File-New-Streets** menu option.) |
| RefNum | The number associated with the reference street the collision occurred on. (This number is assigned by the **File-New-Streets** menu option.) |
| EarliestDate | The earliest date a collision occurred at the intersection. |
| CurrentDate | The most recent date on which a collision occurred at the intersection. |
| TotalColl | The total number of collisions at the intersection. |

When the *Collision Record System* is run, one of the tasks that is completed before the **Main Menu** is displayed is rebuilding of the **LocationList** database table.

Typically, the rebuilding of the **LocationList** does not need to be done through this menu option. However, if new collisions are added and reports are to be created that may include the new collisions, then this menu option should be selected.

Once the **Utilities – Build Location List** menu option is chosen, a form is displayed that contains a progress bar. A progress bar is a horizontal bar that displays the percentage of completion of a particular task. Each record of the database table *CRS* is read and the **LocationList** database table is rebuilt. As each record of the *CRS* table is read, the progress bar is updated. After the database table **LocationList** has been rebuilt, the form is closed and the **Main Menu** is displayed.

## Utilities – Recalculate Collision ID:



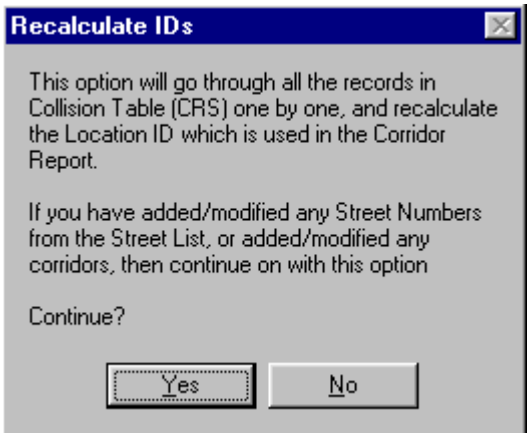

In order to browse or create corridor reports, the *Collision Record System* has developed an Identification Description Number that includes the following elements:

- The Street Number the collision occurred on.
- The Reference Street Number the collision occurred on.
- The Distance From the Reference Street (if applicable) where the collision occurred.
- The Direction From the Reference Street (North, South, East or West ,if applicable) where the collision occurred.
- A special code that indicates whether the collision was at an intersection or a distance from a cross street.

This number, which is stored in the database table *CRS* is calculated when a new collision is entered and when a collision record has been edited.

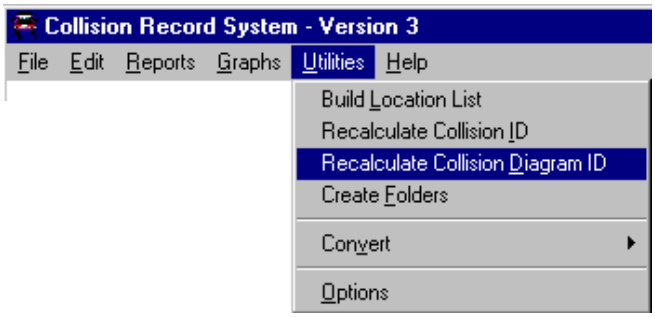
Every time a new corridor is created or an existing corridor is edited, this menu option should be selected.

Once the **Utilities – Recalculate Collision ID** menu option is chosen, the following **Yes/No** message box will be displayed.




Choosing **No** will return to the **Main Menu**. If **Yes** is selected, a form is displayed that contains a progress bar. A progress bar is a horizontal bar that displays the percentage of completion of a particular task. Each record of the database table, *CRS*, is read and the Identification Description Number is recalculated. As each record of the *CRS* table is read, the progress bar is updated. After the Identification Description Number for each record has been recalculated and stored in the database table *CRS* the form is closed and the **Main Menu** is displayed.

# Utilities – Recalculate Collision Diagram ID:

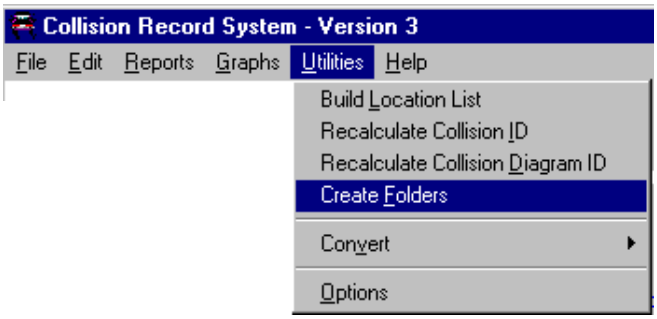



Version 3 of the *Collision Record System* ads several fields to the database table *CRS* that pertains to the Collision Diagram report option. When this occurs, the *Collision Record System* reads each record of the database table *CRS* and inserts the values for these new fields.

If data that was exported via the **File-Export Year** menu option in an earlier version, and then brought back into the *Collision Record System* by the **File-Import Year** menu option, this menu option should be selected.

Once the **Utilities – Recalculate Collision Diagram ID** is menu option is selected, a form is displayed that contains a progress bar. A progress bar is a horizontal bar that displays the percentage of completion of a particular task. Each record of the database table, *CRS*, is read and the values for the fields relating to the Collision Diagram are recalculated and stored into the database table *CRS*. As each record of the *CRS* table is

read, the progress bar is updated. After each record has been updated, the form is closed and the **Main Menu** is displayed.



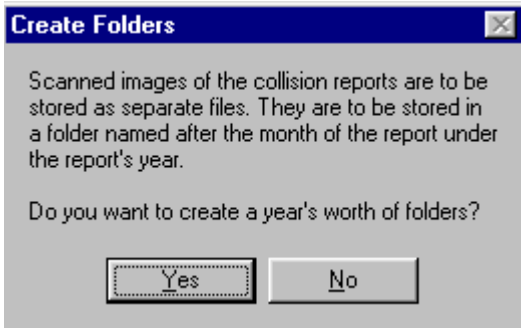

# Utilities – Create Folders:

One of the features of the *Collision Record System* is that scanned images of the collision records can be scanned and viewed while browsing collision records and after various reports have been created.

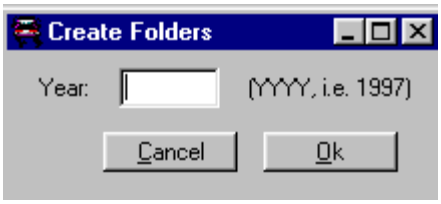
The scanned images have to be stored in a specific location and each graphic file has to be named identically to the value in the **Case #** field. The images are stored in folders that named after are the year and month of the collision date.

Example: The date of a scanned collision is **04/03/1999**. The scanned image is to be stored in the folder **April** that is under the folder **1999**.

Under this menu option the system will create the folder for a year and all of its months. Once the **Utilities – Create Folders** menu option has been selected, the following **Yes/No** message box will be displayed.



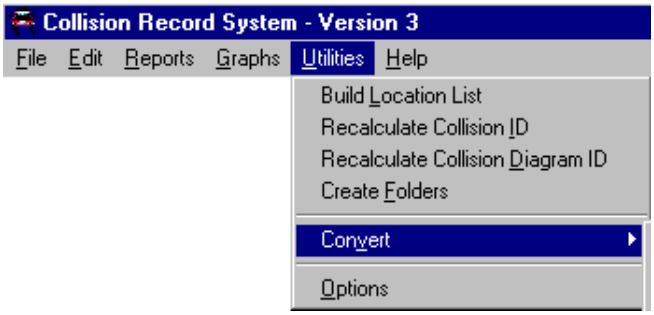

Selecting **No** will return to the **Main Menu**. Choosing **Yes** will display the **Create Folders** form. The following is the **Create Folders** form.



Enter the year for which the folders are to be created. Make sure the year is entered in the format of **YYYY**. Once the year has been entered and **Ok** has been selected, the folders are created and the following message box will be displayed.


Once **Ok** has been clicked, the **Main Menu** will be displayed.

## Utilities – Convert:

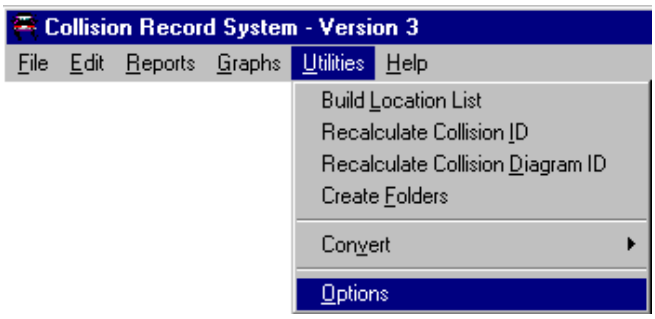



The *Collision Record System* was written as a replacement for the existing **UTEC** program that was written in SmartWare II. The **Utilities – Convert** menu options were written to convert the street list, corridor list, and collision records from the SmartWare II system. These options were written for the **UTEC** system that was being used by the City of Longview.

As other agencies began using the *Collision Record System*, it became apparent that anomalies existed in other agencies' data that did not exist in the City of Longview's system. Bernie Koontz has been hired as a consultant by the WSDOT to help install and provide technical help for the *Collision Record System.*

Bernie Koontz should be contacted if any data from the SmartWare II UTEC system is to be converted. He will come to your agency and aid in the conversion process.

## Utilities – Options:



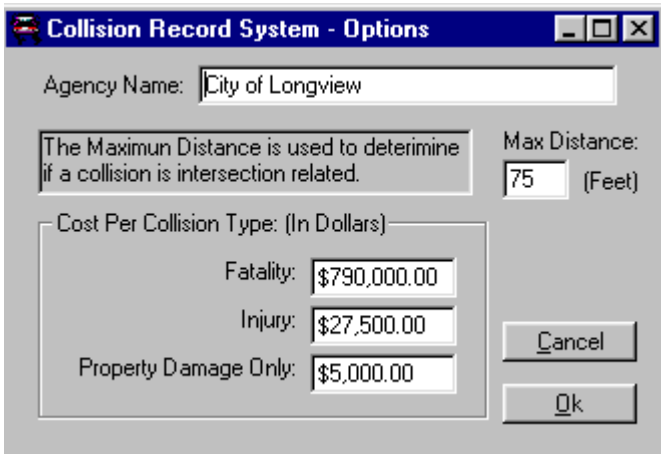

The agency's name is printed at the top of each report and at the top of the collision diagram.

When the High Collision Location Report is generated, the costs for fatality, injury, and property damage only collisions are used in calculating the cost of the collisions at an intersection.

Many collisions that take place a short distance from an intersection have their location coded as a distance from a cross street when in fact the collision is intersection related. Different agencies may have different maximum distances at which a collision can be considered an intersection related collision.

The above information (agency name, the associated cost for a fatality, injury, or property-damage-only collision, and the maximum distance from a intersection at which a collision is to be considered intersection related) are stored in the database table *Options*.

Values for the above fields are delivered to the *Collision Record System*.. Selecting the **Utilities – Options** menu option will allow the values to be modified. Once the **Utilities – Options** has been selected, the **Collision Record System – Options** form will be displayed. The following is an example of the **Collision Record System – Options** form.




The following are the fields that are contained on the form.

| **Field Name** | **Description** |
|---|---|
| Agency Name | This text box is where the agency's name is entered. The name in this field is printed at the top of each report and at the top of the Collision Diagram. |
| Max. Distance | This numeric field is the maximum distance from an intersection at which a collision can be considered intersection related. |

> **Note:** There may be studies where only the collisions within an intersection are to be used. Enter a zero (0) for the maximum distance.

Fatality Cost

The cost associated with a fatality collision is entered in this currency field.

> **Note:** When entering a value for a currency field, neither a **$** symbol nor or a **comma** have to be entered.
>
> Example: To enter $84,000, type 84000 and then press T . The focus will be transferred to the next field and the 84000 entered will be automatically formatted as $84,000.

Injury Cost

The cost associated with an injury collision is entered in this currency field.

PDO Cost

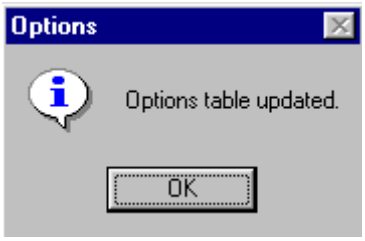
The cost associated with a property-damage-only-collision is entered in this currency field.

Cancel

Pressing the **Cancel** button will discard any modified data and return to the **Main Menu**.

Ok

Pressing Ok will place all the values on the **Collision Record System – Options** form in the database table *Options*. Once this task has been completed, the following message box will be displayed.




Once **Ok** is clicked, the *Collision Record System* will return to the **Main Menu**.

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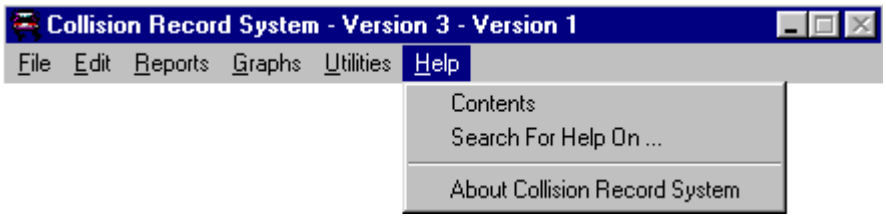
# Help

The help system included in the *Collision Record System* is aimed at providing the user with majority of the information contained in this manual.

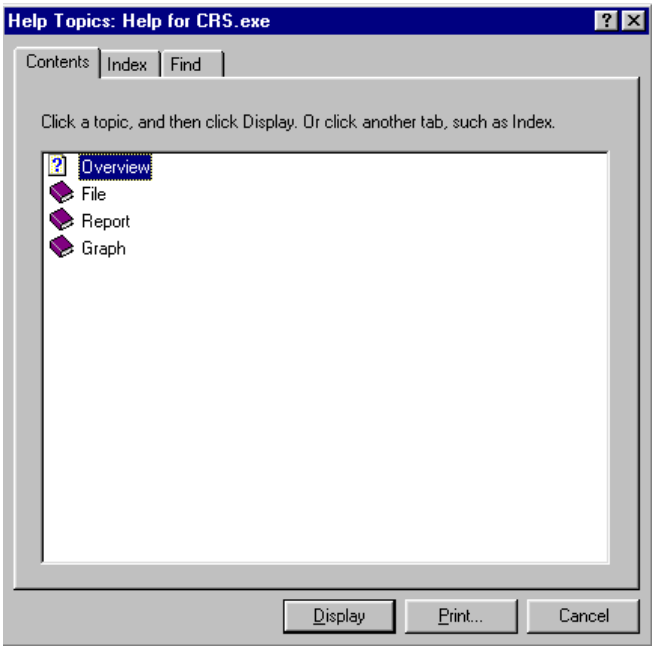
While in any field, pressing ! will bring up help for that particular field. Once help has been invoked, the help system contents can be displayed and the information contained in this manual are available.

The **Help** menu option provides access to the help system. When the **Help** menu option is chosen by either clicking on **Help**, or pressing A h, the **Help** options are displayed. The following are the **Help** options.




## Help - Contents:

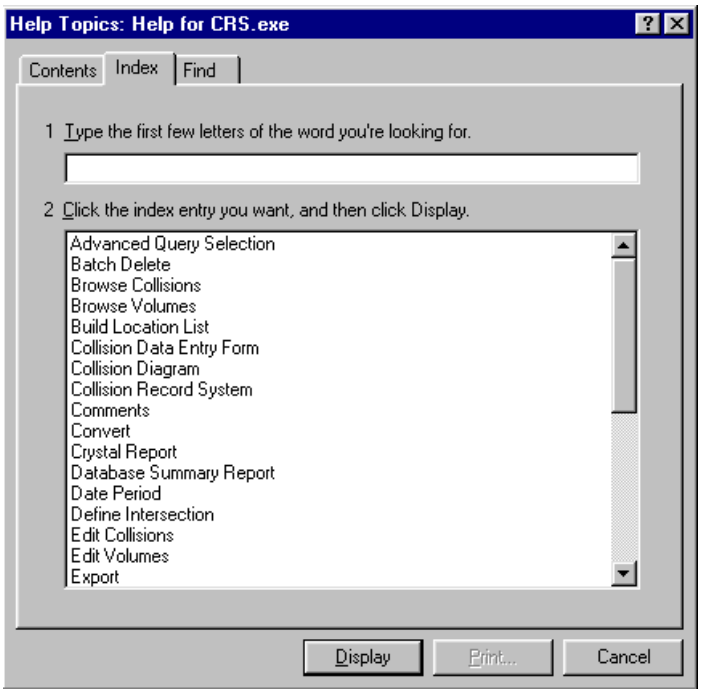
The *Collision Record System's* help contents are the equivalent to the index of this manual. The following is the form that is displayed when selecting **Contents**:



Each major topic is displayed as a book. Highlighting a book and clicking **Open** will display the chapters in the book. Each chapter is displayed as a page with a "?" in the middle. Clicking **Display** will display its associated help contents.

## Help – Search For Help On ……:


This help option is used when a help particular topic is desired. Selecting this option will bring up the following form:

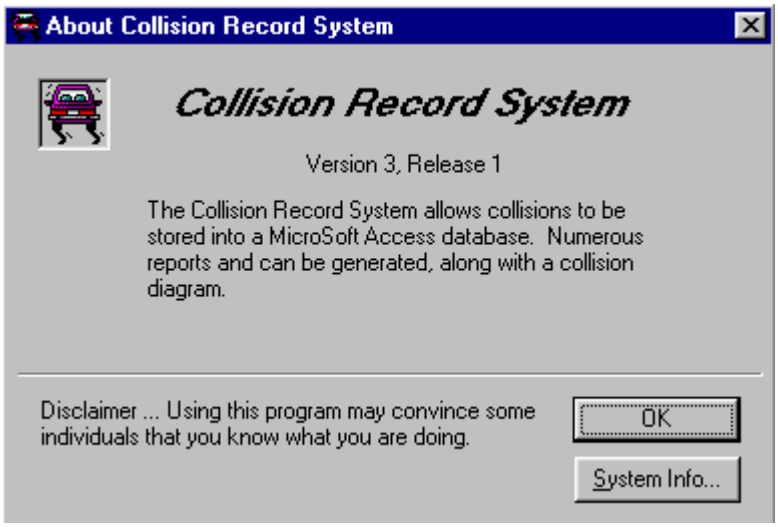



A word or phrase to search for is entered in the text field and pressing E will try to find a match with the word/phrases listed below. If a match is found, the word/phrase will be highlighted.

Once the word/phrase has been found, and highlighted, click **Display**, and the help topic are displayed.

# Help – About Collision Record System:


This option is just a way to advertise the program. When this option is selected, the following form will be displayed:




Clicking **System Info** will bring up Microsoft's System Information window, and information about your PC will be displayed.

When finished with this window, click **Ok** and the program will return to the **Main Menu**.

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# Appendix

# Appendix A - Coding Traffic Collision Records

There is a saying in the computer world, "*Garbage In, Garbage Out*". Spending an average of less than two minutes in correctly coding the first page of each **State of Washington Police Traffic Collision Report** (report) will help ensure data integrity. The following is an example of the first page of the report.

Coding a **State of Washington Police Traffic Collision Report** is not the favorite task of policemen. Therefore, they make numerous errors. The following is a procedure of coding and verification that has been successfully used since the inception of the **State of Washington Police Traffic Collision Report** 1997.

**Circle fields that are be entered:**
The **State of Washington Police Traffic Collision Report** form (data form), which is displayed when the **File-New-Collision** option is selected, emulates the **State of Washington Police Traffic Collision Report.**

The boxes that appear along both the right and left sides of the paper report appear in the same location on the data form. The data fields to be entered in report form are located in approximately the same area as on the paper form.

Circling those fields on the paper form will allow easier data entry.

**Using a label for missing fields:**
The **State of Washington Police Traffic Collision Report** does not contain several pieces of information that are required by the *Collision Record System*. These are:

**Type of Collision:** The Type of Collision is determined by looking at the direction of travel for the vehicles involved, noting the vehicle actions, and reading of the description written by the investigating officer. The following are the types of collisions and their associated number code.

**(1) Right Angle:** This is the most common type of collision. Typical directions are:

| **Vehicle One** | **Vehicle Two** |
|---|---|
| Northbound | Westbound or Eastbound |
| Southbound | Westbound or Eastbound |
| Eastbound | Northbound or Southbound |
| Westbound | Northbound or Southbound |

**(2) Sideswipe:** This type of collision typically occurs when vehicles are traveling in the same direction and one of the vehicles changes lanes or merges into traffic.

**(3) Rear End:** Both vehicles are traveling in the same direction and one vehicle crashes into the back of the other vehicle.

**(4) Head On:** Each vehicle is traveling in the opposite direction.

**(5) Fixed Object/Parked Vehicle:** This type of collision is the second most common. Typically, vehicle one either crashes into a parked vehicle or runs off the road and hits a fixed object, such as a tree or pole.

**(6) Approach Turn:** Each vehicle is traveling on the same road in opposite directions. Vehicle one turns left in front of vehicle two. This is an important collision type, because it will help to determine whether or not left turn channelization/protection may be required at that location.

**(7) Bicycle/Pedestrian Involved:** One of the parties involved in the collision is either a pedestrian or a bicyclist.

**(8) Backing:** Typically, this type of collision occurs when a vehicle backs into the roadway and hits a parked vehicle.

**(9) Other:** This is the "catch all" type of collision. An example of an "Other" is when a vehicle loses control, runs off the road and ends up in a ditch. The vehicle has not struck any fixed objects, and no other vehicles were involved.

**Total Vehicles:** **Total Vehicles** is different from the **Total # of Units** found near the top of the paper form. **Total # of Units** many times includes pedestrians, and fixed objects, such as trees, guardrails, and signs. **Total Vehicles** should only include vehicles, including parked vehicles.

**Number of Fatalities:** The total number of fatalities for the collision is calculated by checking the **Injury Class** for each party included in the report. If the **Injury Class** is **2**, **3**, or **4**, the party has died.

**Number of Injuries:** The total number of injuries for the collision is calculated by checking the **Injury Class** for each party included in the report. If the **Injury Class** is **5**, **6**, or **7**, the party was injured.

**Property Damage Only:** The collision is classed as property damage only if no one was died or no one was injured. Checking the **Injury Class** for each party included in the report will determine whether or not the collision was a property only damage collision. If all of the **Injury Classes** are **1**, or left blank, then the collision is considered a property-damage-only collision.

**Hit and Run:** If one of the vehicles leave the scene, the collision is considered a Hit and Run collision. Reading the description of the collision is the best way of determining whether or not the collision was a Hit and Run collision.

These six (6) pieces of information can be attached to the paper copy of the **State of Washington Police Traffic Collision Report** via a label. The Microsoft Word

document, **CLabel.doc**, is included as part of the installation program. The file is located in the same folder the *Collision Record System* is stored.

**Checking Various Codes:**

There are several codes found on the **State of Washington Police Traffic Collision Report** that are critical to success of the *Collision Record System*. They are:

**Vehicle Actions:**

The vehicle actions for vehicles one and two are coded in the boxes 29 and 30 which are located along the right side of the report. The actions of the vehicles **must** correspond to their associated direction of travel.

A typical coding error is as follows:

A vehicle is coded as turning (code 3, or 4) when actually the vehicle was stopped in the roadway waiting to turn. The associated direction of travel will be coded as straight (i.e. 1 -> 5). The vehicle action should be changed to the proper vehicle action, usually 6, 7, or 9.

**Direction of Vehicles:**

This data is critical to correctly displaying a collision diagram and to many of the other reports.

The *Collision Record System* supports only 1, 3, 5, and 7 (north/south and east/west streets) as direction of travel. If the report is coded with 2, 4, 6, or 8, then the direction of travel must be recoded appropriately.

Typical coding errors are:

The vehicle is stopped in the roadway, but traveling straight, and is coded as stopped, 9. The direction should be changed to traveling straight (i.e. 7 -> 3).

The vehicle is coded as traveling straight, but the vehicle is actually parked. The direction should be changed to 9.

The vehicle is coded as traveling either straight or turning, but the vehicle is actually backing. The direction should be changed to 9.

**Posted Speed Limit:**

The posted speed limit is coded in the boxes 11 and 12 which are located along the right side of the report. The police sometimes enter the speed of the vehicles instead of the posted speed limit.

Also, if the collision occurred on a street, same distance from a cross street, both boxes 11 and 12 should contain the same value since the collision occurred on a

street not at an intersection. The police will often code box 12 as the speed limit for the cross street, which is incorrect.

**Vehicle One is Not At Fault:**

In order to properly plot the collision diagram, vehicle one must be at fault. This is an issue that should be discussed with the police department.

Although the police department may agree to code the vehicle at fault as vehicle one, there will be times when the vehicle at fault will be shown as vehicle two. By looking at boxes 27 and 28 one can tell whether vehicle two is at fault.

If box 27 is coded as 18 – None and box 28 is not coded as 18, then vehicle two is at fault. **DO NOT CHANGE ANY CODES**. The data checking that is part of the data entry of new collisions will recognize that vehicle two is at fault and after displaying a Yes/No message box, change **all** the appropriate codes for to make vehicle one the vehicle at fault.

**Distance Displayed in Miles:**

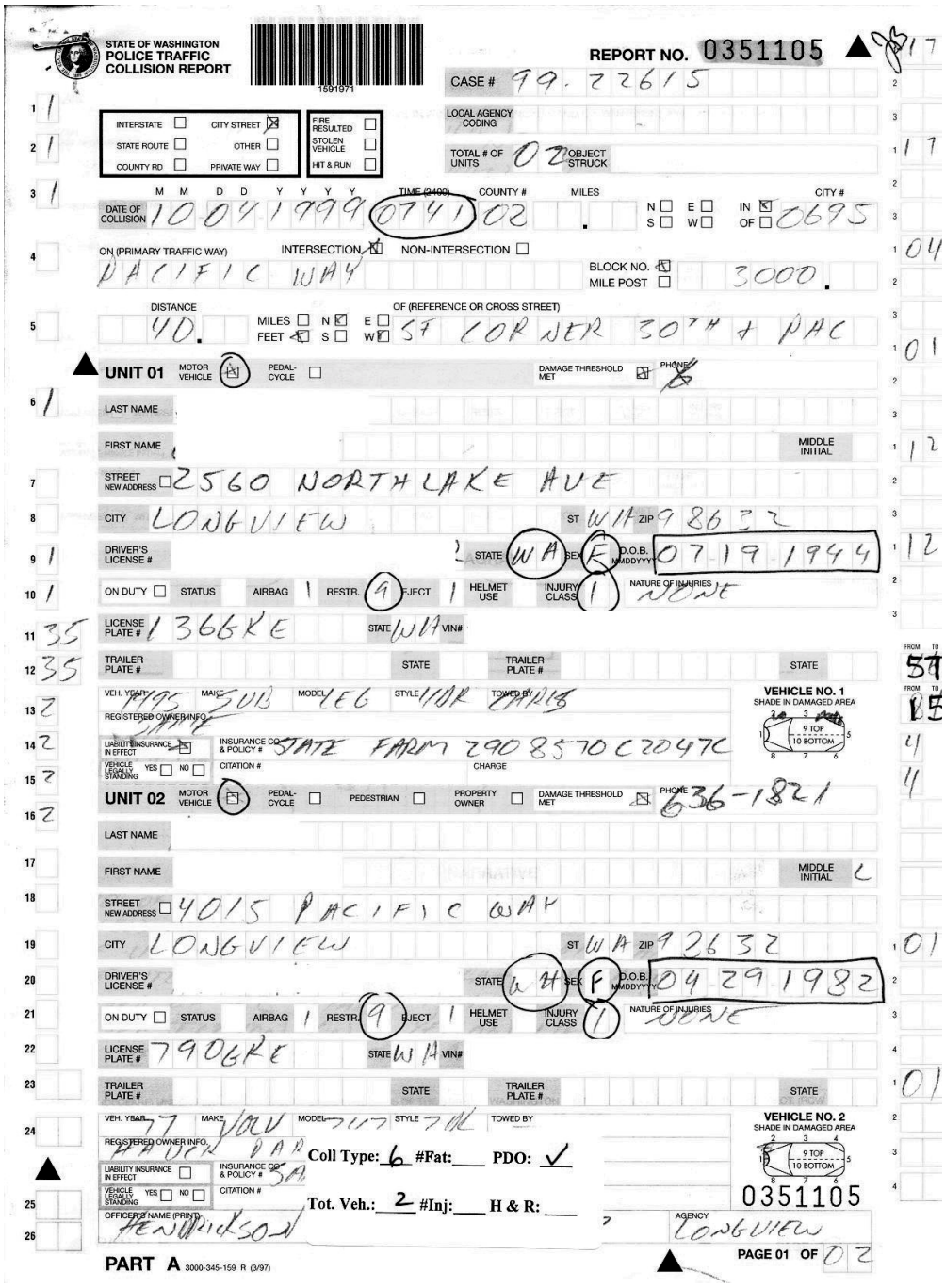
If the collision is not an intersection related collision, then the location of the collision is determined by a distance from a cross street. The **State of Washington Police Traffic Collision Report** allows the distance to be coded in feet or miles. The *Collision Record System* only supports the distance measured in feet.

If the distance is measured in miles, then convert the distance to feet. The following table converts miles to feet.

| Distance | | Distance | |
|---|---|---|---|
| Miles | Feet | Miles | Feet |
| 0.05 | 265 | 0.55 | 2904 |
| 0.10 | 530 | 0.60 | 3165 |
| 0.15 | 790 | 0.65 | 3430 |
| 0.20 | 1055 | 0.70 | 3695 |
| 0.25 | 1320 | 0.75 | 3960 |
| 0.30 | 1585 | 0.80 | 4225 |
| 0.35 | 1850 | 0.85 | 4490 |
| 0.40 | 2110 | 0.90 | 4750 |
| 0.45 | 2375 | 0.95 | 5015 |
| 0.50 | 2640 | 1.00 | 5280 |

> **Note:** The above table rounds the feet to the nearest five (5) feet. If the police are measuring the distance from a cross street as tenths of a mile, then the distance is just an approximation. Rounding to the nearest five (5) feet will not detract from the accuracy.

The following is an example of a **State of Washington Police Traffic Collision Report** that has the fields in the middle circled, the label attachéd and completed, and any incorrect codes changed.



The following are the code definitions for the data that is stored in the boxes.

**ROADWAY SURFACE CONDITION**

| | |
|---|---|
| 1 Dry | 6 Oil |
| 2 Wet | 7 Standing Water |
| 3 Snow / Slush | 8 Other* |
| 4 Ice | 9 Unknown |
| 5 Sand / Mud / Dirt | |

**WEATHER**

| | |
|---|---|
| 1 Clear / Partly Cloudy | 6 Sleet / Hail / Freezing Rain |
| 2 Overcast | 7 Severe Crosswind |
| 3 Raining | 8 Blowing Sand/Dirt/Snow |
| 4 Snowing | 9 Other* |
| 5 Fog / Smog / Smoke | 0 Unknown |

**LIGHT CONDITIONS**

| | |
|---|---|
| 1 Daylight | 5 Dark - Street Lights Off |
| 2 Dawn | 6 Dark - No Street Lights |
| 3 Dusk | 7 Other* |
| 4 Dark - Street Lights On | 8 Unknown |

**WORK ZONE (CONSTRUCTION, MAINTENANCE, UTILITY)**

| | |
|---|---|
| 1 Workers Present | 3 Traffic Backup From Work Zone |
| 2 Workers Not Present | |

**LOCATION CHARACTER (ONLY IF APPLICABLE)**

| | |
|---|---|
| 1 Parking Lot | 6 Park & Ride Lot |
| 2 Bridge / Overpass | 7 Ferry Dock |
| 3 Underpass / Tunnel | 8 School Zone |
| 4 Rest Area / Turn Out | 9 Playground Zone |
| 5 Shopping Mall / Plaza | 0 RR Crossing |

**ROADWAY CHARACTER**

| | |
|---|---|
| 1 Straight & Level | 6 Curve & Grade |
| 2 Straight & Grade | 7 Curve at Hillcrest |
| 3 Straight at Hillcrest | 8 Curve in Sag |
| 4 Straight in Sag | 9 Unknown |
| 5 Curve & Level | |

**HAZARDOUS MATERIALS (IDENTIFY IN NARRATIVE)**

| | |
|---|---|
| 1 Hazmat Transported - Not Released | |
| 2 Hazmat Transported - Released | |

**TRAFFIC CONTROL**

| | |
|---|---|
| 1 Signals | 6 RR Signal |
| 2 Stop Sign | 7 Officer / Flagger |
| 3 Yield Sign | 8 Other Traffic Control* |
| 4 Flashing Red | 9 No Traffic Control |
| 5 Flashing Amber | 0 Unknown |

**POSTED SPEED**

MILES PER HOUR FOR EACH VEHICLE INVOLVED

**TYPE OF ROADWAY**

| | |
|---|---|
| 1 One Way | 6 Interchange Ramp |
| 2 Two Way - Undivided | 7 Alley |
| 3 Two Way - Divided, with Barrier | 8 Center-Two Way Left Turn Lane |
| 4 Two Way - Divided, no Barrier | 9 Driveway |
| 5 Reversible Road | 0 Unknown |

**ROADWAY SURFACE TYPE**

| | |
|---|---|
| 1 Concrete | 5 Dirt |
| 2 Blacktop | 6 Other* |
| 3 Brick or Wood Block | 9 Unknown |
| 4 Gravel | |

**VEHICLE CLASSIFICATION (ONLY IF APPLICABLE)**

1 Trailer w/GVWR of 10,001 lbs or more, if GVWR of combined vehicle(s) is 26,001 lbs or more.

2 Single vehicle w/GVWR of 26,001 lbs or more; or any school bus regardless of size.

3 Single vehicle of 26,000 lbs or less, designed to carry 16 passengers or more; or any vehicle regardless of size which requires a HAZ MAT Placard.

**PEDESTRIAN / PEDALCYCLIST WAS USING:**

| | |
|---|---|
| 1 Sidewalk | 5 Unmarked X Walk |
| 2 Walkway | 6 Other* |
| 3 Shoulder | 7 Designated Bike Route |
| 4 Marked X Walk | 8 Roadway |

**PEDESTRIAN / PEDALCYCLIST CLOTHING VISIBILITY**

| | |
|---|---|
| 1 Dark | 4 Retro - Reflective |
| 2 Light | 5 Other Reflective Apparel* (Shoes, Patches) |
| 3 Mixed | |

**PEDESTRIAN ACTION (ONE PER UNIT)**

| | |
|---|---|
| 1 Xing at Intersection with Signal | 11 Walking on Roadway Shoulder Opposite Traffic |
| 2 Xing at Intersection Against Signal | 12 Standing or Working in Roadway |
| 3 Xing at Intersection - No Signal | 13 Pushing or Working on Vehicle |
| 4 Xing at Intersection - Diagonally | 14 Playing in Roadway |
| 5 From Behind Parked Vehicle | 15 Lying in Roadway |
| 6 Xing - Non Intersection - No X Walk | 16 Not in Roadway |
| 7 Xing - Non Intersection - In X Walk | 17 All Other Actions* |
| 8 Walk'g in Roadway with Traffic | 18 Fell or Pushed Into Path of Vehicle |
| 9 Walk'g in Rdwy Opposite Traffic | 19 At Intersection Not Using Crosswalk |
| 10 Walk'g on Rdwy Shldr with Traffic | |

**PEDALCYCLIST ACTION (ONE PER UNIT)**

| | |
|---|---|
| 43 Xing diagonally | 47 Cyclist Turned Into Path of Vehicle-Same Direction |
| 44 Riding with Traffic | 48 Cyclist Turned Into Path of Vehicle -Opposite Direction |
| 45 Riding Against Traffic | 49 All Other Actions* |
| 46 Fell or Pushed into Path of Vehicle | 50 Xing or Entering Trafficway |

**CONTRIBUTING CIRCUMSTANCES - DRIVERS, PEDALCYCLISTS OR PEDESTRIANS (NO MORE THAN THREE PER UNIT)**

| | |
|---|---|
| 1 Under Influence of Alcohol | 17 Other* (List in Narrative) |
| 2 Under Influence of Drugs | 18 None |
| 3 Exceeding Stated Speed Limit | 19 Improper Signal |
| 4 Exceeding Reas. Safe Speed | 20 Improper U Turn |
| 5 Did Not Grant R/W to Vehicle | 21 Light Violation: No Lights / Fail to Dim |
| 6 Improper Passing | 22 Did Not Grant R/W to Pedestrian/ Pedalcyclist |
| 7 Following Too Closely | 23 Inattention |
| 8 Over Center Line | 24 Improper Backing |
| 9 Failing to Signal | 30 Disregard Flagger / Officer |
| 10 Improper Turn | 31 Apparently Ill |
| 11 Disregard Stop and Go Signal | 32 Apparently Fatigued |
| 12 Disregard Stop Sign / Flashing Red | 33 Had Taken Medication |
| 13 Disregard Yield Sign / Flashing Yellow | 34 On Wrong Side of Road |
| 14 Apparently Asleep | 35 Hitchhiking |
| 15 Improper Parking Location | 36 Failure to Use Xwalk |
| 16 Operating Defective Equipment | |

**VEHICLE ACTIONS (NO MORE THAN THREE PER VEHICLE)**

| | |
|---|---|
| 1 Going Straight Ahead | 13 Legally Parked, Occupied |
| 2 Overtaking and Passing | 14 Legally Parked, Unoccupied |
| 3 Making Right Turn | 15 Backing |
| 4 Making Left Turn | 16 Going Wrong Way on Divided Hwy |
| 5 Making U-Turn | 17 Going Wrong Way on Ramp |
| 6 Slowing | 18 Going Wrong Way on One-Way Street or Road |
| 7 Stopped for Traffic | 19 Other* |
| 8 Stopped at Signal or Stop Sign | 20 Changing Lanes |
| 9 Stopped in Roadway | 21 Illegally Parked, Occupied |
| 10 Starting in Traffic Lane | 22 Illegally Parked, Unoccupied |
| 11 Starting From Parked Position | |
| 12 Merging (Entering Traffic) | |

**VEHICLE CONDITION (NO MORE THAN THREE PER VEHICLE)**

| | |
|---|---|
| 1 Defective Brakes | 9 Headlights Glaring |
| 2 Defective Headlights | 10 Other Lights / Reflectors Insufficient |
| 3 Defective Rear Lights | 11 Other Defects* |
| 4 Tires Worn or Smooth | 12 No Defects |
| 5 Tires Punctured or Blown | 13 Motorcycle - Lights Off |
| 6 Lost a Wheel | 14 Equipped with Studded Tires |
| 7 Defective Steering Mechanism | 15 Motorcycle Windshield Installed |
| 8 Power Failure | 16 Truck / Trailer Safety Inspection |

**DIRECTION OF MOVEMENT (INDICATE BY NUMBER THE "FROM" AND "TO" MOVEMENT)**

| | |
|---|---|
| 5 Vehicle Stopped | |
| 0 Vehicle Backing | |

**SOBRIETY**

| | |
|---|---|
| 1 HBD - Ability Impaired | 4 Had Not Been Drinking |
| 2 HBD - Ability Not Impaired | 9 Unknown |
| 3 HBD - Extremely Unknown | |

**ALCOHOL TEST**

| | |
|---|---|
| 97 Test Given - Results Pending | OR: List Actual Test Results in 100ths |
| 98 Test Given - No Results | |
| 99 Test Refused | |

**DRE ASSESSMENT (NO MORE THAN 2 PER UNIT)**

| | |
|---|---|
| 1 CNS - Depressants | 6 Inhalants |
| 2 CNS - Stimulants | 7 Cannabis |
| 3 Hallucinogens | 8 Drug Combinations |
| 4 PCP | 9 Drug Impaired, Type Not Determined |
| 5 Narcotic Analgesics | 0 Not Drug Impaired |

**SEQUENCE OF EVENTS (UP TO FOUR PER VEHICLE)**

| | |
|---|---|
| 1 Collision Involving Motor Vehicle in Transport | 9 Ran off the Road |
| 2 Collision Involving Fixed Object | 10 Jackknife |
| 3 Collision Involving Other Object | 11 Overturn (Rollover) |
| 4 Collision Involving Parked Vehicle | 12 Downhill Runaway |
| 5 Collision Involving Pedestrian | 13 Cargo Loss or Shift |
| 6 Collision Involving Pedalcyclist | 14 Explosion or Fire |
| 7 Collision Involving Animal | 15 Separation of Units |
| 8 Collision Involving Train | 16 Other* |

**STATE OF WASHINGTON**

POLICE TRAFFIC COLLISION REPORT OVERLAY

3000-340 (Revised 7-97)

① UNIT #1 ② UNIT #2

*DESCRIBE IN THE NARRATIVE

## INSTRUCTIONS

This Police Traffic Collision Report is designed to use computer technology to read and record your printed responses. To ensure accuracy, please follow these instructions when completing the report.

**When the information requested is not available or not applicable, leave that portion of the report blank.**

Print in block capital letters using a black ball-point pen with a medium tip; do not use a pencil or felt-tip pen. Please follow the examples below:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 1 2 3 4 5 6 7 8 9 0

Note: sevens and zeros should not be crossed

Items requiring a box to be marked should be filled in as follows:

■ ☒ ☑ — RIGHT

☐ ☓ ☐ ✓ — WRONG

**When the information requested is not available or not applicable, leave that portion of the form blank.**
**Enter the pre-printed REPORT NO. found at the top right of Part A, on all subsequent pages.**
**Include the REPORT NO. if you are providing exchange of information to individuals involved.**

If applicable to your jurisdiction, enter the Case # on all pages.

Use the Unit #1 section of Part A to capture information on motor vehicle drivers or pedalcyclists.

Use the Unit #2 section of Part A to capture information on motor vehicle drivers, pedalcyclists, pedestrians or property owners.

Use the applicable Status codes to further describe pedestrians or pedalcyclists involved.

Use the Additional Persons Involved section of Part B to capture information on vehicle passengers or witnesses only.

**Use the Supplemental Police Traffic Collision Report to capture information on additional units.**

WHEN TO USE THE COMMERCIAL MOTOR CARRIER PORTION OF THE REPORT
(See Supplemental Police Traffic Collision Report).

Answers to questions below determine use.

| Did this collision involve - | Yes | No |
|---|---|---|
| 1 A truck with at least 2 axles and 6 tires? | ____ | ____ |
| 2 A bus with seats for 16 or more people, including driver? | ____ | ____ |
| 3 Any vehicle requiring a hazardous material placard? | ____ | ____ |

STOP - If response to all above questions is "No", do not complete the Commercial Motor Carrier portion of report.

| | | |
|---|---|---|
| 4 A fatal injury? | ____ | ____ |
| 5 An injured person who was transported for immediate medical attention? | ____ | ____ |
| 6 A vehicle which was towed because of disabling damage? | ____ | ____ |
| 7 A vehicle requiring intervening assistance before proceeding under its own power? (e.g., towed from ditch, etc.) | ____ | ____ |

**Note: If response to question 6 or 7 is "Yes", mark the "Any Vehicle Towed?" box on the Commercial Motor Carrier portion of report.**

STOP - If response to the last four items is "No", do not complete the Commercial Motor Carrier portion of report.

USE THE FOLLOWING CODES ON THE COMMERCIAL MOTOR CARRIER PORTION OF THE REPORT.

VEHICLE TYPE
1 Bus
2 Single unit Truck; 2 axle, 6 tires
3 Single unit Truck; 3 or more axles
4 Truck/Trailer
5 Truck Tractor (Bob-tail)
6 Tractor/Semi-Trailer
7 Tractor/Doubles
8 Tractor/Triples
9 Other/Cannot Classify

CARGO BODY TYPE
1 Bus
2 Van/Enclosed Box
3 Cargo Tank
4 Flatbed
5 Dump
6 Concrete Mixer
7 Auto Transporter
8 Garbage/Refuse
9 Other

NAME SOURCE (CARRIER)
1 Side of Vehicle
2 Shipping Papers
3 Driver
4 Log Book

USE THE FOLLOWING CODES FOR STATUS, SEAT POSITION, AIRBAG, RESTRAINT SYSTEMS, EJECTION, HELMET USE AND INJURY CLASS

STATUS OF PEDESTRIAN/ PEDALCYCLIST
1 Bicyclist
2 Tricyclist
3 Person on Foot
4 Roller Skater / Skateboarder
5 Non-Motorized Wheelchair
6 Motorized Wheelchair
7 Flagger
8 Roadway Worker
9 Emergency Response Personnel
0 Other*

SEAT POSITION

10 Other Position*
11 Position Unknown
12 Motorcycle
13 Outside of Vehicle

AIRBAG
1 Not Airbag Equipped
2 Airbag Equipped -Not Activated
3 Airbag Equipped -Activated
9 Unknown

RESTRAINT SYSTEMS
1 No Restraints Used
2 Lap Belt Used
3 Shoulder Belt Used
4 Lap & Shoulder Belt Used
5 Child Infant Seat Used
6 Child Convertible Seat Used
7 Child Built-In Seat Used
8 Child Booster Seat Used
9 Unknown

EJECTION
1 Not Ejected
2 Totally Ejected
3 Partially Ejected
9 Unknown

HELMET USE FOR BICYCYCLISTS, PEDALCYCLISTS, SKATERS OR SKATEBOARDERS
1 Helmet Used
2 Helmet Not Used
9 Other

INJURY CLASS
1 No Injury
2 Dead at Scene
3 Dead on Arrival
4 Died at Hospital
5 Disabling Injury
6 Non Disabling (Evident Injury)
7 Possible Injury

* DESCRIBE IN THE NARRATIVE.

The following are some hints and shortcuts that can be used when entering new collision records

Shortcut Keys:

| Field | Key | Action |
|---|---|---|
| Box 13 | A z | Enter "2" into boxes 13 and 14 and move focus to box 27. |
| Box 28 | A z | Enter the following codes:<br>Box 28 – "18"<br>Box 29 – "1"<br>Box 30 – "1"<br>Box 31 – "12"<br>Box 32 – "12"<br>Move focus to "From" for vehicle one. |
| Date of Collision | A z | Repeat the last date entered. |
| Intersection | E | If the check box is checked, the Street List Box will be displayed. If the check box is unchecked, the Distance field will receive focus. |
| State Vehicle One | Various | Most of the driver's licenses will be for Washington residents. There are special key combinations for Washington drivers that designate Male and Female.<br><br>For Male, pressing either A s, or A (colon) will insert **"WA"** as the state, **"M"** as the sex for vehicle one, and transfer the focus to the Date of Birth for Vehicle One.<br><br>For Female, pressing either A f, or A (quote) will insert **"WA"** as the state, **"F"** as the sex for vehicle one, and transfer the focus to the Date of Birth for Vehicle One. |
| Restraint Vehicle One | A z | Will place "4" in the Restr. field, "1" in Injury Class and transfer focus to State for Vehicle Two. |

| | | |
|---|---|---|
| State Vehicle Two | Various | Most of the driver's licenses will be for Washington residents. There are special key combinations for Washington drivers that designate Male and Female.<br><br>For Male, pressing either A s, or A (colon) will insert **"WA"** as the state, **"M"** as the sex for vehicle one, and transfer the focus to the Date of Birth for Vehicle Two.<br><br>For Female, pressing either A f, or A (quote) will insert **"WA"** as the state, **"F"** as the sex of vehicle one, and transfer the focus to the Date for Birth for Vehicle Two. |
| Restraint Vehicle Two | A z | Will place "4" in the Restr. field, "1" in Injury Class and transfer focus to Total Vehicles. |

# Appendix B - Scanning Collision Reports

One of the most important tools for use in analyzing traffic collisions is the diagram drawn by the investigating officer and the officer's description. The *Collision Record System* can display a scanned image when browsing data and after the reporting process.

In order to successfully include scanned images into the *Collision Record System*, the following guidelines must be followed.

**Scan Resolution:** The report must be scanned with the resolution of 100 dpi. A higher resolution will produce an image that is too large for the display.

**File Format:** The scanned image must be saved in the JPEG format. (File extension of JPG). This format generates one of the smallest file sizes.

**File Name:** Naming the scanned image is critical. The name of the scanned image must be identical to the Case Number for the report scanned.

Example: The Case Number of the report is 99-12546. The name of the scanned image must be 99-12546.jpg.

**Location of JPG File:** Once the image has been scanned, the JPG image file must be stored in the proper location.

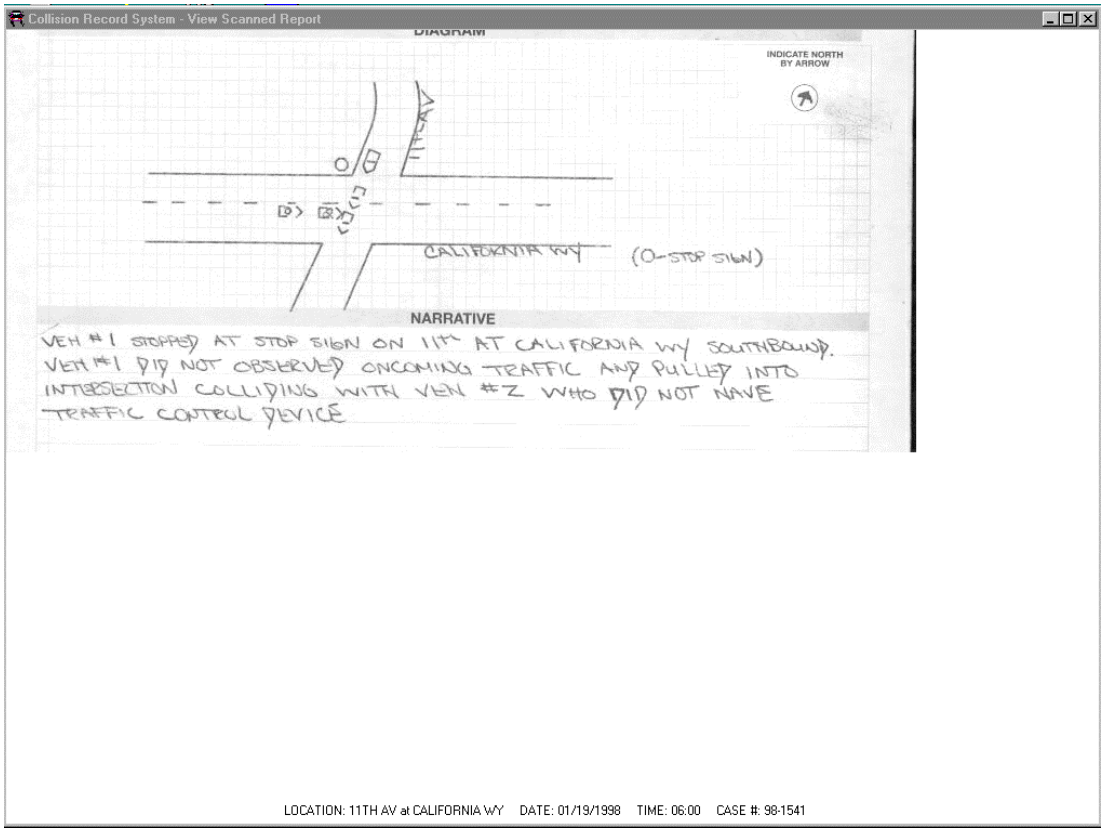
The *Collision Record System's* menu option, **Utilities-Create Folders** will create folders for a specified year. Each year will have a folder for each month. The scanned file must be stored in the folder for the month of the collision report.

Example: The date of the collision is **04/07/1999**. The scanned image must be stored in the folder **Apr** that is under the folder **1999**.

All the above are critical for success. When a scanned image is selected to be viewed while running the *Collision Record System*, the program performs the following tasks.

- Creates the scanned image file name by reading the Case Number field from the database table CRS and adding the file name extension JPG.
- Determines the location of the scanned image file by reading the Date of Collision data field from the database table CRS.
- Looks for the scanned image with the file name calculated above in the folder calculated above.

If the scanned image is found, the image will be displayed. The following is an example of a scanned image as it is displayed in the *Collision Record System*.



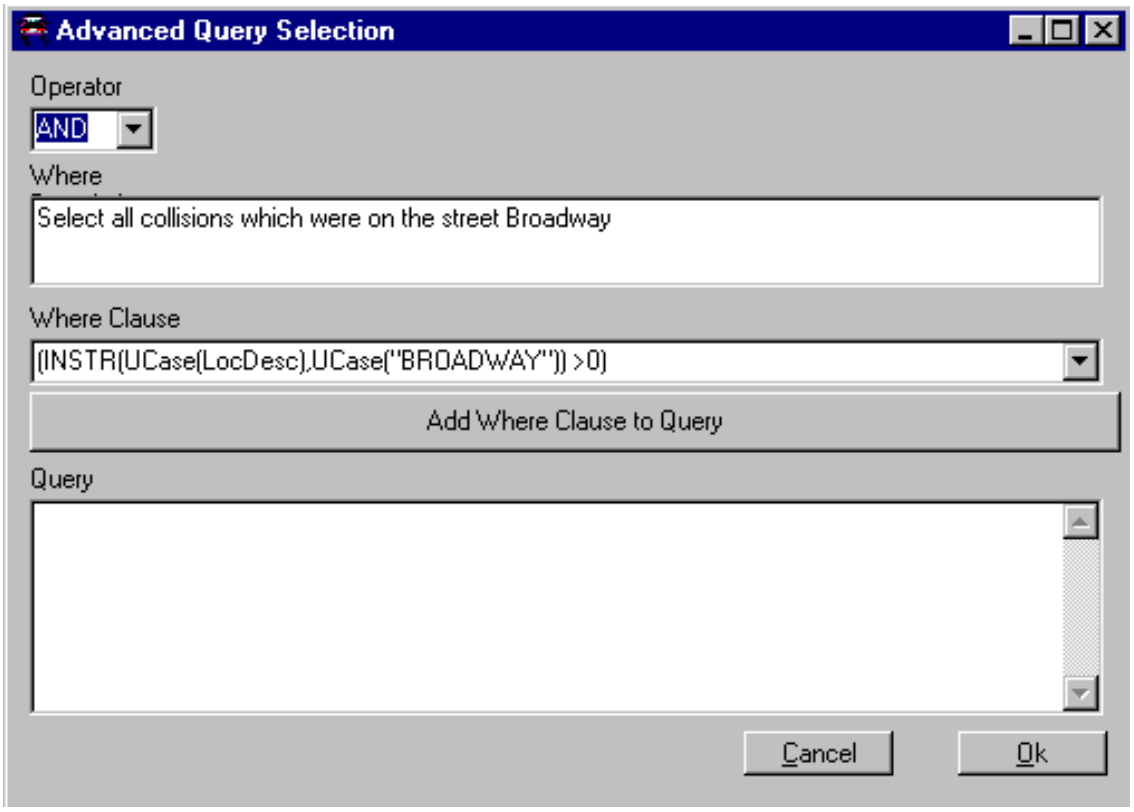

The image file is displayed at the top, and the location, collision date, time of collision, and the case number is displayed at the bottom

# Appendix C - Advanced Query Examples

The *Collision Record System's* database is a Microsoft Access Database. SQL is used to query the database. However, SQL is not an easy language to learn and it is very easy to make mistakes.

The *Collision Record System* developed an **Advance Query System** that takes the difficulty of SQL out of the user's hands. The most common queries are predefined and can be easily selected.

The purpose of this appendix is to give examples of advance queries. The following is an example of the **Advance Query Selection** form.




As used in the *Collision Record System*, SQL has three parts:

- Select the database table to be queried.
- Where certain criteria is satisfied.
- Sort the results by defined fields.

The *Collision Record System* automatically determines both the database table to be queried and how the results are to be sorted.

The **Advance Query Selection** form provides for additional **Where** conditions to be added.

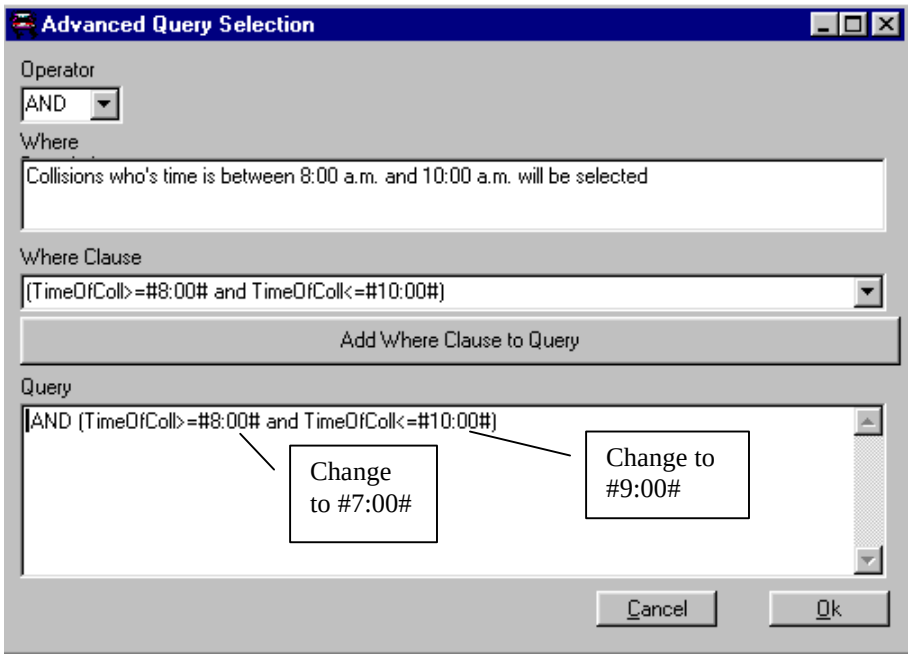
The **Advance Query Selection** form can be accessed through many of the menu options. It is recommended try the examples in this appendix via the **Reports-Collisions-General Summary** menu option. The results can be viewed in the **Crystal Report From**.

The following examples will illustrate various advance queries. The exact keystrokes will be listed.

**Example One:** - Query the database for collisions that occurred between 7:00 am and 9:00 am.

| **Keystrokes** | **Action** |
|---|---|
| T | Moves the focus to the Where Clause field. |
| Y | Moves the Where Clause options as shown below. |
| T E | Inserts the Where Clause to the Query text box. |
| T | Moves the focus to the Query text box. |

Edit the text so that **#8:00#** becomes **#7:00#**, and **#10:00#** becomes **#9:00#**. Once this has bee accomplished, click **Ok**.



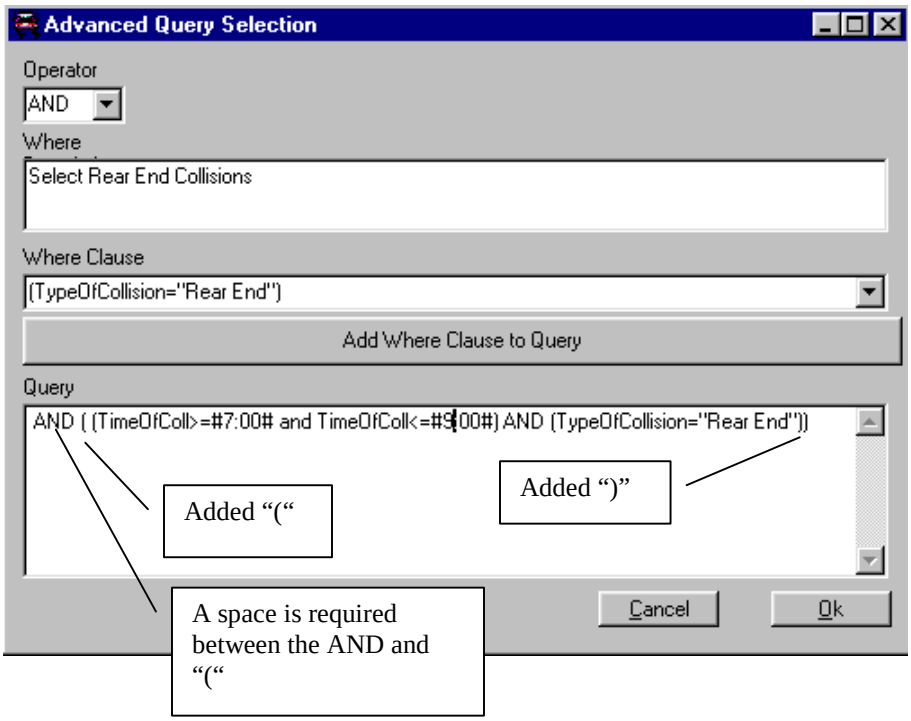
**Example Two:** - Query the database for collisions that occurred between 7:00 am and 9:00 am. And are Rear-End collisions.

| **Keystrokes** | **Action** |
|---|---|
| T | Moves the focus to the Where Clause field |
| Y (3 Time) | Moves the Where Clause options to: **(TimeOfColl>=#8:00# and TimeOfColl<=#10:00#)** |
| T E | Inserts the Where Clause to the Query text box |
| B T | Moves the focus back to the Where Clause field |
| Y (4 Times) | Moves the Where Clause options to: **(TypeOfCollision="Rear End")** |
| T E | Inserts the Where Clause to the Query text box |
| T | Moves the focus to the Query text box. |

Edit the text so that **#8:00#** becomes **#7:00#**, and **#10:00#** becomes **#9:00#**.

A "(" and a ")" are to be added. The "(" is to be placed after the leftmost AND and the first "(". The ")" is to be placed at the end.

Once this has bee accomplished, click **Ok**.

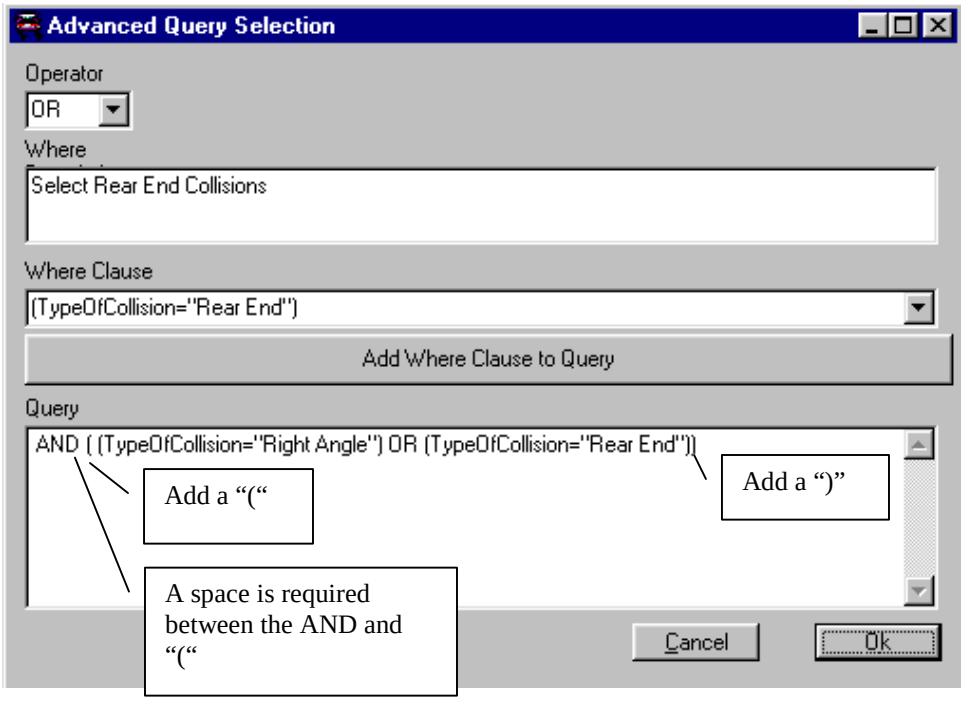


**Example Three:** - Query the database for collisions that **either** Right Angle or Rear End.

| Keystrokes | Action |
|---|---|
| T | Moves the focus to the Where Clause field |
| Y (3 Times) | Moves the Where Clause options to: **(TypeOfCollision="Right Angle")** |
| T E | Inserts the Where Clause to the Query text box |
| B T | |
| B T | Moves the focus back to the Operator field |
| Y | Changes the Operator field to **OR**. |
| T | Moves the focus to the Where Clause field |
| Y (2 Times) | Moves the Where Clause options to: **(TypeOfCollision="Rear End")** |
| T E | Inserts the Where Clause to the Query text box |
| T | Moves the focus to the Query text box. |

A "(" and a ")" are to be added. The "(" is to be placed after the leftmost AND and the first "(". The ")" is to be placed at the end.

Once this has bee accomplished, click **Ok**.

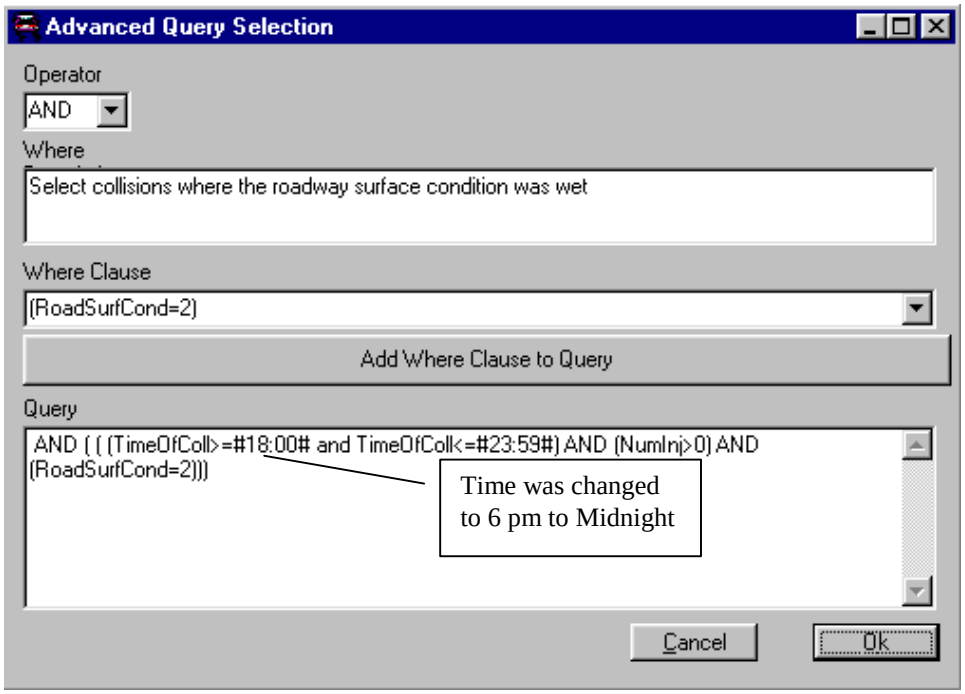


**Example Four:** - Query the database for collisions that have injuries, occurred at night, and the pavement condition was wet.

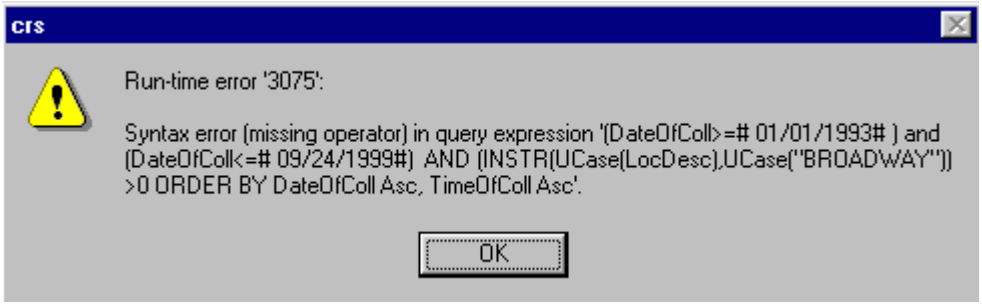
| Keystrokes | Action |
|---|---|
| T | Moves the focus to the Where Clause field |
| Y | Moves the Where Clause options to: **(TimeOfColl>=#8:00# and TimeOfColl<=#10:00#)** |
| T E | Inserts the Where Clause to the Query text box |
| B T | Moves the focus back to the Where Clause field |
| Y (13 Times) | Moves the Where Clause options to: **(NumInj>0)** |
| T E | Inserts the Where Clause to the Query text box |
| B T | Moves the focus back to the Where Clause field |
| Y (10 Times) | Moves the Where Clause options to: **(RoadSurfCond=2)** |
| T | Moves the focus to the Query text box. |

A "(" and a ")" are to be added. The "(" is to be placed after the leftmost AND and the first "(". The ")" is to be placed at the end.

Once this has bee accomplished, click **Ok**.



If an error is made in the Advance Query, an error message will be displayed, and the *Collision Record System* will terminate. The following is an example of the error message.




If you have problems developing an Advance Query, contact John Bean at (360) 577-3377. He will create the proper Advance Query for you.

# Appendix D – Sample Reports

The following pages consist of sample printouts for the reports generated by the *Collision Record System*.

Examples of reports are:

1. Location Report
    a. Tabular Report
    b. Time of Day Vs Type of Collision Statistical Report
    c. Time of Day Vs Month of Year Statistical Report
    d. Time of Day Vs Day of Week Statistical Report
2. Location Summary Report
3. Collision Diagram
    a. Collision Diagram
    b. Collision Diagram Report
4. High Collision Report
    a. Number of Collisions
    b. Collision Rate
    c. Total Cost
5. Corridor Report
    a. Tabular Report
    b. Time of Day Vs Type of Collision Statistical Report
    c. Time of Day Vs Month of Year Statistical Report
    d. Time of Day Vs Day of Week Statistical Report
6. General Summary
    a. Tabular Report
    b. Time of Day Vs Type of Collision Statistical Report
    c. Time of Day Vs Month of Year Statistical Report
    d. Time of Day Vs Day of Week Statistical Report

7. Statistical
    a. Time of Day Vs Type of Collision Statistical Report
    b. Time of Day Vs Month of Year Statistical Report
    c. Time of Day Vs Day of Week Statistical Report
8. Increasing Report
9. Pedestrian Involved Report
10. Bicycle Involved Report
11. Database Summary (Page One Only)
12. Intersection Entering Volumes Report (Page One Only)
13. Street Name List Report (Page One Only)
14. Corridor List (Page One Only)